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TRANSACTIONS

OF THE

THIRTY-FOURTH SESSION

OF THE

HOMŒOPATHIC MEDICAL SOCIETY

OF THE

STATE OF PENNSYLVANIA.

HELD AT PITTSBURG, SEPTEMBER 27, 28 AND 29, 1898.

PHILADELPHIA:
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1899.

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	do.	Z. T. Miller, M.D., ...	Pittsburg.

To the Homœopathic Medical Society of the State of Pennsylvania:

Your Publication Committee herewith presents the Proceedings and Papers of the Thirty-fourth Session of the Society, held at Pittsburg, September 27, 28 and 29, 1898.

EDWARD M. GRAMM, M.D.,
J. F. COOPER, M.D.,
GEORGE B. MORELAND, M.D.,
Committee on Publication.

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TRANSACTIONS

OF THE

THIRTY-FOURTH SESSION

OF THE

HOMŒOPATHIC MEDICAL SOCIETY

OF THE

STATE OF PENNSYLVANIA.

Held in the Chapel of the Homœopathic Hospital of Pittsburg, September 27, 28 and 29, 1898.

The President, WILLIAM H. KEIM, M.D., of Philadelphia, called the meeting to order on the morning of September 27, 1898.

The Right Rev. E. H. Ward, of Pittsburg, offered the invocation.

W. W. Blair, M.D., of Pittsburg, welcomed the members of the Society in the following

ADDRESS OF WELCOME.

Mr. President, Ladies and Gentlemen:

Upon me devolves the very agreeable duty of offering you a word of welcome to the "Smoky City"—hospitable Pittsburg, our Secretary has called it, and we of the Allegheny Medical Society propose to try to prove that it is not a misnomer.

According to the published program, we have in prospect a most profitable and enjoyable meeting. I feel confident that, after listening to and taking part in the discussion of the various subjects which will come before us, all will be benefited

and none go away dissatisfied. However, all will agree, I think, that all work and no play will make us dull. Therefore, we have arranged to break off from our labors to-morrow afternoon for a brief respite, and I take great pleasure in inviting you, on behalf of the Allegheny Medical Society, to a drive. We will show you some of Pittsburg's beauty-spots—our art gallery, library and conservatories, take you through some of the most attractive country of this end of the State, and promise you something to eat at the end.

I wish to say also that our hospital here is open to your inspection in all its departments, and I would invite you to visit the various wards, operating-rooms and dispensaries; and in every quarter I can assure you a hearty welcome.

The President, W. H. Keim, M.D., responded as follows:

Mr. Chairman: In your kind words of greeting to the Homœopathic Medical Society of the State of Pennsylvania I heard you say "Welcome." This is no new sound to us, for since the State Society met here three years ago, we who live on the other side of our great coast range, by the broad Susquehanna and the noble Delaware, have heard the bells on the beautiful Monongahela ringing "Return, State Society, return; we bid you welcome!" As we drew nearer and nearer we found the echoed ringing was the pulsation of your warm, hospitable hearts, for in the estimation of the State Society, the Allegheny Society long since won its spurs for hospitality, fraternity and good-fellowship.

We have come over the mountains of the old Keystone State to meet at the family gathering, to grasp warm, fraternal hands, to look into each other's eyes, and feel that the present recompenses for the work, worry and trials of the past, and encourages us to greater and nobler deeds in coming days.

Let me assure you that your words of welcome have sunk deeply into our hearts; and when our deliberations have ended, and we have returned to our homes, we will recall our sojourn here with pleasure, and long remember Pittsburg and your hospitalities.

On motion, the calling of the roll was dispensed with.

The following program, prepared by the Corresponding Secretary, was adopted, with the modification that the afternoon session of Wednesday, the 28th, should be from 1 to 3.30 o'clock:

PROGRAM.

Order of Business.

Tuesday, September 27, 1898.

Morning Session, 9.30 *to* 1 *o'clock.*

1. Call to order.
2. Invocation.
3. Address of Welcome.
4. Response.
5. Roll Call. Correction of List of Members.
6. Report of Treasurer. Appointment of Auditing Committee.
7. Report of Corresponding Secretary.
8. Report of Trustees.
9. Report of Committees.
   - *a.* Organization, Registration and Statistics. George B. Moreland, M.D., Chairman.
   - *b.* Legislation. H. C. Chisholm, M.D., Chairman.
   - *c.* Publication. Edward M. Gramm, M.D., Chairman.
   - *d.* Hahnemann Monument. W. J. Martin, M.D., Chairman.
10. Report of Delegates to the American Institute of Homœopathy.
11. Report of Delegates to the Southern Institute of Homœopathy.
12. Report of Delegates to the New Jersey State Society.
13. Report of Delegates to the New York State Society.
14. Report of Delegates to the Ohio State Society.
15. Report of Delegates to the Maryland State Society.
16. Report of Delegates to the Delaware State Society.
17. Report of Delegates to the Interstate Committee of the American Institute of Homœopathy.
18. Report of Delegates from State Societies and Local Organizations.

19. Report of Necrologist, Thomas L. Bradford, M.D.
20. Report of Board of Censors. J. W. Coolidge, M.D., Chairman.
21. Report of Auditing Committee.
22. Action on Amendment to By-Laws, offered in writing at the last meeting by Joseph E. Jones, M.D. Amendment to Article X., Section 1, of By-Laws.—Insert "the unanimous" between the words "by" and "vote" on line 5, page 53, of the TRANSACTIONS of the Society of 1897.

SECTION OF PÆDOLOGY.

C. Sigmund Raue, M.D., Chairman.

Associates.—W. H. Bigler, M.D., F. W. Burlingame, M.D., Millie J. Chapman, M.D., W. H. Cooper, M.D., P. H. Ealer, M.D., W. F. Edmundson, M.D., T. P. Gittens, M.D., J. C. Guernsey, M.D., Bushrod W. James, M.D., J. N. Mitchell, M.D., Eliza F. Pettingill, M.D., L. P. Posey, M.D., W. A. Seibert, M.D., Chandler Weaver, M.D.

C. Sigmund Raue, M.D., Philadelphia. The Diathetic Diseases and Their Influence upon the Course and Treatment of the Acute Diseases of Childhood.

W. H. Bigler, M.D., Philadelphia. The Value of Variations of Temperature as Indications for Treatment in Diseases of Children.

F. W. Burlingame, M.D., McKeesport. Enuresis.

Millie J. Chapman, M.D., Pittsburg. Barlow's Disease.

Bushrod W. James, M.D., Philadelphia. Physiological Feeding of Children.

W. A. Seibert, M.D., Easton. Diarrhœa and Indigestion of Children.

Afternoon Session, 3 to 6 o'clock.

SECTION OF SURGERY.

S. M. Rinehart, M.D., Chairman.

Associates.—L. T. Ashcraft, M.D., G. M. Christine, M.D., E. R. Gregg, M.D., J. W. Hassler, M.D., C. H. Hofman, M.D., D. P. Maddux, M.D., H. L. Northrop, M.D., R. C. Pit-

cairn, M.D., C. P. Seip, M.D., W. G. Steele, M.D., Walter Strong, M.D., G. A. Van Lennep, M.D., C. V. Vischer, M.D., B. K. Wilbur, M.D., L. H. Willard, M.D.

S. M. Rinehart, M.D., Pittsburg. Title Unannounced.

L. T. Ashcraft, M.D., Philadelphia. Seminal Vesiculitis.

G. M. Christine, M.D., Philadelphia. The Proper Apposition of the Ends of Fractured Bones.

J. W. Hassler, M.D., Philadelphia. The Treatment of Leg Ulcers.

H. L. Northrop, M.D., Philadelphia. Punctured Wound of the Common Carotid Artery. Sarcoma and the Mixed Toxine Treatment.

R. C. Pitcairn, M.D., Pittsburg. A Few Surgical Mistakes.

C. P. Seip, M.D., Pittsburg. Title Unannounced.

W. G. Steele, M.D., Philadelphia. The Treatment of Rectal Diseases.

Walter Strong, M.D., Philadelphia. The Surgical Treatment of Tuberculous Lymphadenitis.

G. A. Van Lennep, M.D., Philadelphia. Fractures of the Lower End of the Radius.

C. V. Vischer, M.D., Philadelphia. Head Injuries.

B. K. Wilbur, M.D., Sitka, Alaska. Sodium Bicarbonate Solution as a Surgical Dressing.

L. H. Willard, M.D., Allegheny. Title Unannounced.

Section of Sanitary Science.

W. J. Martin, M.D., Chairman.

Associates.—A. W. Baily, M.D., C. F. Bingaman, M.D., A. P. Bowie, M.D., Isaac Crowther, M.D., Pemberton Dudley, M.D., H. F. Heilner, M.D., T. M. Johnson, M.D., C. W. Perkins, M.D., R. T. White, M.D.

W. J. Martin, M.D., Pittsburg. The Air We Breathe.

A. P. Bowie, M.D., Uniontown. Hahnemann's Teachings on Sanitation.

Pemberton Dudley, M.D., Philadelphia. The Hygiene of School Life.

R. T. White, M.D., Allegheny. Formaldehyd; Its Practical Value as a Disinfectant.

Evening Session, 8 *to* 10.30 *o'clock.*

Section of Clinical Medicine.

Irwin B. Gilbert, M.D., Chairman.

Associates.—Anna C. Clarke, M.D., S. W. Dinsmore, M.D., G. M. Getze, M.D., E. H. Kase, M.D., A. B. Lichtenwalner, M.D., Eliza L. McClure, M.D., E. C. Parsons, M.D., E. H. Pond, M.D., Mary E. Smith, M.D., E. R. Snader, M.D., Pearl Starr, M.D., W. R. Stephens, M.D., W. W. Van Baun, M.D., E. H. Van Deusen, M.D., Robert Walter, M.D.

Irwin B. Gilbert, M.D., Philadelphia. Pain.

Anna C. Clarke, M.D., Scranton. Complications of Typhoid Fever.

S. W. Dinsmore, M.D., Sharpsburg. Whooping Cough.

E. H. Kase, M.D., Philadelphia. Pre-Natal Influences.

A. B. Lichtenwalner, M.D., Philadelphia. Serum Therapy.

E. C. Parsons, M.D., Meadville. A Case of Fatal Peritonitis; The Autopsy Should Validate Pension Claim.

E. R. Snader, M.D., Philadelphia. Bad Nauheim Treatment at Home.

Pearl Starr, M.D., Bellevue. Carbuncle.

W. W. Van Baun, M.D., Philadelphia. Catarrhal Pneumonia.

E. H. Van Deusen, M.D., Philadelphia. Report of a Case of Muscular Dystrophy.

Robert Walter, M.D., Walter's Park. Observations on the Treatment of Neurasthenia and Melancholia.

Section of Ophthalmology, Otology and Laryngology.

Horace B. Ware, M.D., Chairman.

Associates.—C. H. Brown, M.D., H. F. Ivins, M.D., H. I. Jessup, M.D., R. W. McClelland, M.D., G. A. Mueller, M. D., H. F. Schantz, M.D., I. G. Shallcross, M.D., William Spencer, M.D., C. M. Thomas, M.D., H. S. Weaver, M.D.

Horace B. Ware, M.D., Scranton. The Iris.

E. W. Brickley, M.D., York. Retinal Glioma.

William Spencer, M.D., Philadelphia. Tinnitus Aurium.

Frederick Van Gunten, M.D., Philadelphia. The Importance of a Careful Nasal Examination in Cases of So-called "Colds."

Wednesday, September 28.

Morning Session, 9 to 12 o'clock.

SECTION OF OBSTETRICS.

Margaret Hassler Schantz, M.D., Chairman.

Associates.—Mary Branson, M.D., R. K. Fleming, M.D., D. C. Kline, M.D., Augustus Korndœrfer, Jr., M.D., Anna M. Marshall, M.D., E. W. Mercer, M.D., Emma T. Schreiner, M.D.

Margaret Hassler Schantz, M.D., Reading. The Local Treatment of Puerperal Septicæmia.

D. C. Kline, M.D., Reading. A Complicated Twin Labor.

Augustus Korndœrfer, Jr., M.D., Philadelphia. The Importance of Accurate Pelvimetry.

Anna M. Marshall, M.D., Philadelphia. Preparations for Labor.

E. W. Mercer, M.D., Philadelphia. The Application of Forceps to the Side of the Head.

Emma T. Schreiner, M.D., Philadelphia. The Indicated Remedy in Albuminuric Nephritis of Pregnancy.

SECTION OF GYNÆCOLOGY.

Theodore J. Gramm, M.D., Chairman.

Associates.—B. F. Betts, M.D., T. M. Bulick, M.D., W. D. Carter, M.D., Mary A. Cooke, M.D., Ella D. Goff, M.D., Joseph Hancock, M.D., John E. James, M.D., A. A. Lindabury, M.D., J. H. McClelland, M.D., L. W. Reading, M.D., I. G. Smedley, M.D., J. H. Thompson, M.D., R. E. Tomlin, M.D., Julia Gould Waylan, M.D.

Theodore J. Gramm, M.D., Philadelphia. Primary Carcinoma of the Ovary.

B. F. Betts, M.D., Philadelphia. The Prevention and Treatment of Intestinal Obstruction After Cœliotomy.

W. D. Carter, M.D., Philadelphia. Drainage of the Uterus After Curettage.

Mary A. Cooke, M.D., Philadelphia. What Can We Do for Inoperable Gynæcological Cases?

Ella D. Goff, M.D., Allegheny. Relief Obtained in Uterine Misplacements by Proper Medication in Connection with the Judicious Use of the Tampon.

Joseph Hancock, M.D., Philadelphia. The Origin of Much Gynæcological Work.

J. H. McClelland, M.D., Pittsburg. Retro-Displacements and Ventro-Fixation of the Uterus.

J. H. Thompson, M.D., Pittsburg. Inflammation of the Cervical Mucous Membrane and its Treatment.

R. E. Tomlin, M.D., Philadelphia. Women as Life Insurance Risks.

Julia Gould Waylan, M.D., Philadelphia. The Value of Therapeutics in Gynæcological Cases.

A. A. Lindabury, M.D., Scranton. The Advantages of Vaginal Hysterectomy.

Afternoon Session, 2 *to* 4.30 *o'clock.*

SECTION OF MATERIA MEDICA.

Augustus Korndœrfer, Sr., M.D., Chairman.

Associates.—Edward Cranch, M.D., W. G. Dietz, M.D., P. S. Duff, M.D., D. R. Harris, M.D., W. H. A. Fitz, M.D., J. R. Horner, M.D., A. L. Kistler, M.D., Malcolm Macfarlan, M.D., Charles Mohr, M.D., C. S. Schwenk, M.D.

Augustus Korndœrfer, Sr., M.D., Philadelphia. The Study of Our Materia Medica.

Edward Cranch, M.D., Erie. A Study of Silica.

P. S. Duff, M.D., Great Belt. Cimicifuga Racemosa.

W. H. A. Fitz, M.D., Philadelphia. The Ammonium Salts, with Some Comparisons.

A. L. Kistler, M.D., Allentown. My Experience with Terebene.

Malcolm Macfarlan, M.D., Philadelphia. Provings of New Remedies.

Charles Mohr, M.D., Philadelphia. Materia Medica Problems.
C. S. Schwenk, M.D., Philadelphia. The Genius of Sepia.

Afternoon, 5 *o'clock sharp.*

The members of the Society and visitors will assemble at the Carnegie Library, for a tour of inspection through it and the Phipps Conservatory. A drive through Shenley and Highland Parks will follow, and conclude, at the suburban residence of Dr. W. W. Blair, with a supper and subsequent conversazione tendered by the Allegheny County Medical Society.

Thursday, September 29.

Morning Session, 9.30 *to* 1 *o'clock.*

SECTION OF PATHOLOGY AND PATHOLOGICAL ANATOMY.

R. S. Marshall, M.D., Chairman.
Associates.—Clarence Bartlett, M.D., W. W. Blair, M.D., W. C. Goodno, M.D., P. S. Hall, M.D., W. K. Ingersoll, M.D., B. F. Kehler, M.D., J. C. Morgan, M.D., C. R. Palmer, M.D., J. W. Robson, M.D., W. E. Rotzell, M.D., W. B. Van Lennep, M.D.
W. W. Blair, M.D., Pittsburg. Some Pathological Eye Specimens.
W. B. Van Lennep, M.D., and P. S. Hall, M.D., Philadelphia. The Pathology of Appendicitis.
C. I. Wendt, M.D., Pittsburg. Hydro-Pyo-Nephrosis, with Specimens.

Final Report of the Board of Censors.
Conclusion of Reports and Discussions.
Unfinished Business.
New Business.
Election of Officers.
Selection of Place for the Next Meeting.
Appointment of Committees.
Announcement of Sections.
Adjournment.

The Treasurer, J. F. Cooper, M. D., presented the following Report, which was referred to an Auditing Committee consisting of Drs. C. S. Schwenk, T. H. Carmichael and E. C. Parsons.

REPORT OF TREASURER.

PITTSBURG, September 27, 1898.

J. F. Cooper, M.D., in account with Homœopathic Medical Society of Pennsylvania:

Received as dues from members, .	$1000 00	
Balance in hand at last Report, .	144 76	
		$1144 76
Authorized bills paid since last Report, as per vouchers, . . .	$1003 82	
Balance in hand and due the Society,	140 94	

Respectfully submitted,

J. F. COOPER, M.D.,
Treasurer.

The Committee appointed to audit the accounts of the Treasurer presented the following:

REPORT OF THE AUDITING COMMITTEE.

Your Committee has examined the accounts of the Treasurer and find them correct.

C. S. SCHWENK, M.D.,
T. H. CARMICHAEL, M.D.,
E. C. PARSONS, M.D.

REPORT OF THE COMMITTEE ON ORGANIZATION, REGISTRATION AND STATISTICS.

Your Bureau of Organization, Registration and Statistics herewith presents its annual report:

The Bureau finds itself in a similar predicament to that of the Army Investigation Committee: data and statistics somewhere, but no authority by law to compel answers to questions. While the totals will compare favorably with those of last year, the Bureau regrets to state that, notwithstanding repeated requests, several institutions and societies have failed to respond.

A detailed report will be presented for publication, giving

the membership of 29 local medical societies, with their officers and times and places of meetings. In this report the work of 10 hospitals and infirmaries and 7 dispensaries in this State under homœopathic control is given.

The Hahnemann Hospital of Scranton, incorporated in December, 1897, has not been in existence long enough to give its work in detail. Three other institutions, having failed to answer requests for information, are not included. Our own Society has increased its membership from 313 to 325, which, with 11 honorary and 5 corresponding, gives us a total of 341.

Of the 29 local societies reported, 28 have a membership of 1033.

The Alumni Association of Hahnemann Medical College of Philadelphia has added 90 members to its list, giving it at present 1243 members. The 29 societies have 2276 members. Our 10 hospitals and infirmaries have treated 6002 patients. The 6 dispensaries have treated or issued prescriptions for 186,677 persons.

There have been no additions to the list of medical journals published in the State.

We desire to acknowledge, through the medium of this Report, our thanks to those institutions, societies and journals that have answered our requests for information.

George B. Moreland, M.D.,
Chairman.

HOMŒOPATHIC DISPENSARIES

Name.	Location.	Executive Officer or Secretary.
Homœopathic Free Dispensary.	Pittsburg.	W. D. Slack, Sup't.
Hahnemann Hospital Dispensary.	Philadelphia.	Wm.G. Foulke, Franklin Bldg.
Children's Homœopathic Dispensary.	Philadelphia.	N. F. Lane, M.D., Poplar and Fifteenth.
St. Luke's Homœopathic Dispensary.	Philadelphia.	Alonzo M. Barnes, M.D., 3517 N. Broad St., Phila.
Dispensary of Medical, Surgical and Maternity Hospital of Women's Homœopathic Association of Penna.	Philadelphia, 20th and Susquehanna.	Mrs. M. T. Keehmle, 1315 Arch St., Phila.
The Women's Southern Homœopathic Dispensary.	Philadelphia, 7245 Spruce.	Miss A. M. Miller, 1911 Mt. Vernon St., Phila.
Homœopathic Dispensary.	Philadelphia.	W. F. Kaercher, M.D., 1452 N. 11th St.

HOMŒOPATHIC HOSPITALS AND INFIRMARIES

Name.	Location.	Executive Officer or Secretary.	When Incorporated.	When Opened to Patients.	No. of Beds.
Medical, Surgical and Maternity Hospitals of the Women's Hom. Association of Penna.	Philada.	Mrs. M. T. Keehmle, 1315 Arch St.	1882	1884	75
Home for the Aged Poor.	Pittsburg.	Little Sisters of the Poor, Mother Sup.	1874	1884	152
Children's Homœopathic Hospital of Philadelphia.	Philada.	N. F. Lane, M.D., Poplar and 15th Sts.	1877	1877	35
Homœopathic Medical and Surgical Hospital of Pittsburg.	Pittsburg.	W. D. Slack, Supt.	1866	1866	160
Hahnemann Medical College Hospital.	Philada.	W. G. Foulke.	1848	1869	250
Women's Southern Homœopathic Hospital of Philada.	Philada.	Annie M. Miller, 1711 Mt. Vernon.	1896	1896	30
St. Luke's Homœopathic Hospital of Philadelphia.	Philada.	A. M. Barnes, M.D., 3517 N. Broad St.	1896	1896	15
Reading Homœopathic Hospital.	Reading.	L. A. Schollerberger, M.D.	1890	1891	20
Benedictine Infirmary.	Erie.	Benedictine Sisters.	...	...	10
Hahnemann Hospital.	Scranton.	Anna C. Clarke, M.D.	1897	1897	...

OF THE STATE OF PENNSYLVANIA.

Incorporated.	Opened to Patients.	No. of New Patients Last Year.	No. of Patients Treated Last Year.	No. of Prescriptions Last Year.	No. Visits to Out-Door Patients.
1866	1866	8,374	22,858	18,616	...
1848	1848	27,596	101,274	96,873	1681
1877	1877	.....	40,639	40,173	4975
1896	1896	3,305	15,210	11,233	...
1882	1884	.....	6,185	16,694	3458
1896	1896	500	2,238	3,006	1003
1891	1891	1,922	8,473	15,935	6104

OF THE STATE OF PENNSYLVANIA.

No. of Patients Treated Last Year.	Cured.	Relieved.	Not Relieved.	Died.	Estimated Value of Hospital and Grounds.	Amount of Productive Property.	Sources of Income.
459	378	40	9	25	$200,000.00	$65,000.00	Donations. State aid.
82	40	23	3	16	150,000.00	.....	Donations.
222	184	15	5	4	60,000.00	.....	Donations. State aid.
1879	1169	429	76	109	271,073.00	.....	Donations. State aid.
1580	1173	130	79	102	690,000.00	223,761.00	Donations. State aid.
175	138	8	9	10	16,000.00	.....	Donations.
269	219	26	6	24	11,000.00	.....	Donations.
178	120	31	4	9	30,000.00	.....	Donations. State aid.
158	109	45	3	1	.....	.....	Donations.
...	...	...	...	...	.....	.....	.....

HOMŒOPATHIC MEDICAL SOCIETIES

Name.	President.	Secretary.
Lehigh Valley Homœo. Medical Society.	J. P. Pursell, M.D., Easton, Pa.	H. A. Fehr, M.D., Allentown.
Hom. Medical Society of Northeastern Penna.	J. A. Bullard, M.D., Wilkesbarre.	Anna C. Clarke, M.D., 426 Adams Ave., Scranton.
Hom. Medical Society of Chester, Delaware and Montgomery Counties.	Franklin Powel, M.D., Chester.	Isaac Crowther, 143 E. 7th St., Chester.
Hom. Medical Society of Philadelphia County.	Edward M. Gramm, M.D., Professional Bldg., Phila.	Weston D. Bayley, M.D., 15th and Poplar, Phila.
Hom. Medical Society of Allegheny County.	Wm. W. Blair, M.D., 407 Penn Ave., Pittsburg.	Geo. B. Moreland, M.D., 1321 5th Ave., Pittsburg.
Hom. Med. Society of the 23d Ward, Philada.	C. Seeres, M.D., Philadelphia.	Chas. Becker, M.D., 1902 Tioga St., Phila.
Hom. Med. Soc. of Central Pennsylvania.	E. H. Morrow, M.D., Altoona.	M. A. Wesner, M.D., 407 Franklin St., Johnstown.
Hom. Medical Society of Schuylkill County.	J. V. Klock, M.D., Mahanoy City.	D. J. Price, M.D., Shenandoah.
Alumni Association of Hahn. Med. College.	Wm. R. King, M.D., Washington, D. C.	W. D. Carter, M.D., 1533 S. 15th St., Phila.
Hom. Medical Society of Beaver County.	John M. Dowds, M.D., Beaver Falls.	Wm. Raymer, M.D., Beaver Falls.
Homœopathic Med. Soc. of Germantown.	Thomas Reading, M.D., Hatboro.	J. H. Closson, M.D., 53 W. Chelten Ave., Germant'n.
Hahnemann Club of Philadelphia.	C. S. Middleton, M.D., 1523 Girard Ave., Phila.	Thos. S. Dunning, M.D., 1328 N. 15th, Phila.
Trousseau Clinical Club of Philadelphia.	W. D. Carter, M.D., Philadelphia.	W. A. Weaver, M.D., 1534 Master St.
Oxford Medical Club.	H. B. Coy, M.D., 2724 Girard Ave.	I. B. Gilbert, 2027 Columbia Ave.
Hahnemann Association of Western Penna.	D. G. Stewart, Esq., Pittsburg.	J. H. McClelland, M.D., 5th and Wilkins Ave.
Philada. Women's Med. Club.	Eliza Lang McClure, M.D., 1919 Wallace St.	Lydia W. Stokes, M.D., 1719 Arch St.
Bœnninghausen Medical Club.	Chas. M. Brooks, M.D., 1613 N. 10th St., Phila.	Geo. W. Smith, M.D., 806 N. Broad St.
Hom. Practitioners' Association of Reading.	H. F. Schantz, M.D., 402 N. 5th St.	F. W. Seidel, M.D., 362 N. Front St.
A. R. Thomas Club of Philadelphia.	Chas. D. Smedley, M.D., Wayne, Pa.	A. A. Norris, M.D., 4818 Chester Ave., Phila.
Saturday Night Club of Microscopists.	J. C. Guernsey, M.D., 1923 Chestnut St., Phila.	Nathan Smilie, M.D., 4624 Chester Ave., Phila.
Philadelphia Clinical Society.	C. M. Thomas, M.D., 1623 Arch St.	Wm. H. Bigler, M.D., 118 N. 17th St., Phila.
Philada. Medical Club.	Clarence Bartlett, M.D., 1506 Arch St.	E. W. Mercer, M.D., 157 N. 15th St., Phila.
East End Doctors' Club.	Wm. W. Blair, M.D., 407 Penn Ave., Pittsburg.	R. C. Pitcairn, M.D., 5518 Ellsworth Ave.
Hom. Pharmaceutical Association of Penna.	F. J. Slough, M.D., Allentown.	E. P. Anshutz, M.D., Philadelphia.
Pharmacological Society of the Hahn. Medical College of Phila.	Chas. Mohr, M.D., 1823 Green St., Phila.	Chas. A. Ayres, M.D., 1643 S. Broad St., Phila.
Hom. Medical Society of Montgomery County.	E. B. Rossiter, M.D., Pottstown.	H. M. Bunting, M.D., Norristown.
Hom. Medical Society of Delaware County.	S. A. Beal, M.D., Media.	Geo. C. Webster, M.D., 505 W. 7th St., Chester.

OF THE STATE OF PENNSYLVANIA.

Organized.	Incorporated	When Meetings are held.	Where Meetings are held.	No. Members.	No. Admitted Last Year	No. Deceased Last Year	Annual Dues.
1881	Not.	Bi-Monthly.	Members' Residences.	32	0	0	$1.00
1887	"	"	Scranton and Wilkesbarre.	30	2	0	2.00
1858	"	"	No stated place.	46	14	0	1.00
1866	"	Monthly.	Hahn. Med. College.	132	4	2	1.00
1864	"	"	Hospital Chapel.	72	5	2	2.00
1881	"	"	Philada.	25	4	0	1.50
1893	"	May and November.	No stated place.	31	4	1	2.00
1883	"	Quarterly.	No stated place.	20	0	1	1.00
1851	"	Yearly.	Philada.	1243	90	8	.....
1878	"	Monthly.	Members' Offices.	13	0	0	1.00
1877	"	"	No stated place.	142	20	2	1.00
1872	"	"	No stated place.	12	0	0	.....
1895	"	"	I. O. O. F. Hall.	15	3	0	2.00
1885	"	"	Members' Offices.	16	3	0	5.00
1896	"	April 11.	No stated place.	200	6	0	2.00
1883	"	Monthly.	Members' Offices.	18	2	0	.....
1877	"	"	Secretary's Office.	11	3	1	2.00
1896	"	"	2d Nat. Bank.	13	0	0	1.00
1888	"	"	Members' Houses.	23	3	0	.....
1894	"	"	Hahn. Med. College.	49	8	0	1.00
1880	"	Semi-Monthly.	Members' Residences.	10	0	0	.....
1880	"	Monthly.	No stated place.	15	1	0	none
1895	"	"	Members' Residences.	17	2	0	1.00
1881	1881	At call of President.	Philada.	13	0	0	.....
1895	Not.	Monthly.	Hahn. Med. College.	20	1	0	2.00
1898	"	Bi-Monthly.	No stated place.	16	0	0	1.00
1898	"	"	No stated place.	22	0	0	1.00

HOMŒOPATHIC MEDICAL JOURNALS OF THE STATE OF PENNSYLVANIA.

Name.	Editors and Publishers, and Place of Publication.	When Established.	Pages in each Number.	Subscription Price.	How often Published.	Form.
Hahnemannian Monthly.	W. W. Van Baun, M.D., 1402 Spruce St., Phila.	1865	96	$3.00	Monthly.	Octavo.
Homœopathic Envoy.	E. P. Anshutz, P. O. Box 921, Phila.	1890	8	.25	Monthly.	Quarto.
Homœopathic Recorder.	E. P. Anshutz, P. O. Box 921, Phila.	1886	48	1.00	Monthly.	Octavo.
The Homœopathic Physician.	Boericke & Tafel, 1011 Arch St., Phila. Walter M. James, M.D., 1231 Locust St., Phila.	1881	48	2.50	Monthly.	Octavo.
Hospital News.	Verner S. Goggin, M.D., Hom. Hosp., Pittsburg.	1896	8	.10	Monthly.	Quarto.
Hahnemannian Institute.	Students Hahnemann.	1893	16	.50	Monthly.	Quarto.

REPORT OF THE COMMITTEE ON PUBLICATION.

Dr. E. M. Gramm, Chairman, reported as follows:

The publication of the *Transactions* was duly arranged, the whole of the material for them having been put in the hands of the printer within two weeks after the meeting of the Society, and they could have been out and in the hands of the members within the next three weeks. However, there were delays which kept back the issuing of the *Transactions* until the first day of April of the present year. It is expected that they will be in the hands of the members at an earlier date the coming year.

NECROLOGIST'S REPORT.

Francis Buchman, M.D., was born in Houckville, Carroll Co., Md., November 14, 1847. He received his early education in the public schools. Through his own efforts, and by hard work, he succeeded in accumulating sufficient money to enter as a student the Hahnemann Medical College of Philadelphia in the fall of 1876. He received his diploma from that institution in 1879. He at once commenced to practice in Philadelphia, locating at 1410 South Fifth street. He remained there until November, 1889, when he removed to 1609 South Broad street, where he resided at his death. He from the first adopted as a specialty obstetrics and the cure of diseases peculiar to women and children, and soon acquired a very large general practice.

Dr. Buchman joined the Homœopathic Medical Society of Pennsylvania in 1885. He was also a member of the Philadelphia County Homœopathic Medical Society, the Bœnninghausen Club, and the Germantown Society.

Among the papers upon medical subjects written by him may be mentioned: "Can Hour-glass Contraction of the Uterus be Produced by Unnecessary Manipulation of the Uterus?" "Puerperal Peritonitis and Pathological Prescribings;" "A Case of Unclosed Urachus."

The Doctor was married to Miss Ella M. Leary, October 5, 1880. Two children were born of this union, one of whom, a daughter, still survives.

He died July 14, 1898, of obstruction of the bowels and appendicitis.

Dr. Buchman was well known and greatly respected as a man and beloved as a physician in the section of the city in which he practiced. A friend who knew him well, writing of him, says:

"He was a man of broad views, quiet, refined tastes and domestic habits, possessed of a generous nature, considerate for the feelings and tolerant of the opinions of others. In the practice of his profession no mercenary motive guided or controlled his conception of duty. To every call for his services he responded cheerfully, as a duty he owed his fellow-beings. His decease in the prime of life is a serious loss not only to his family and friends, but to his large circle of patients and the community at large."

He was buried in the New Cathedral Cemetery, Philadelphia, on July 18, 1898.

I know of no other deaths of members during the past year.

Respectfully,

T. L. Bradford, M.D.,
Necrologist.

REPORT OF THE BOARD OF CENSORS.

The Board of Censors examined into the professional standing of the following applicants for membership, and recommended that they be elected. On motion, the recommendations of the Board of Censors were adopted, and the candidates balloted for and elected.

Leon T. Ashcraft, M.D.,	1833 Chestnut St., Phila.
Alonzo M. Barnes, M.D.,	3517 N. Broad St., Phila.
Felix A. Boericke, M.D.,	1011 Arch St., Phila.
E. N. Brickley, M.D.,	York.
C. Sheble Brown, M.D.,	3046 Frankford Ave., Phila.
John C. Calhoun, M.D.,	Pittsburg.
S. Boyd Challinor, M.D.,	Pittsburg.
Charles Caleb Cresson, M.D.,	5909 Green St., Gtn., Phila.
G. W. Gann, M.D.,	DuBois.

W. Wilson Hammond, M.D., . . 1420 Poplar St., Phila.
Gilbert J. Palen, M.D.,
Walnut Lane and Germantown Ave., Phila.
Leon Thurston, M.D., ... Pittsburg.
J. Lewis Van Tine, M. D., . . 1613 Girard Ave., Phila.

The amendment to the By-laws offered by Dr. Joseph E. Jones at the last session was taken up, discussed, and on motion amended, so as to make it necessary to obtain an affirmative three-fourths vote of the members present at a given session in order to extend the time for reading a paper before the Society. The amended Section reads now as follows:

Article X.—Papers and Discussions.

Section 1. Each paper presented to this Society shall be through its appropriate Section. All papers to be presented by any Section shall be in the hands of the Chairman thereof at the opening of the session. All papers shall be subject to the approval and revision of the Publication Committee. No paper will be received by the Society in an incomplete condition, and no paper will be published as part of the *Transactions* which has been published previous to its presentation to this Society. No paper shall occupy more than fifteen minutes in the reading, unless the time be extended by *an affirmative three-fourths vote of the members of the Society present.* In the absence of the author of a paper the Chairman of its appropriate Section may request any member of the Society to read the same, or it shall be read at the request of five members. Any paper may be published in a medical journal subsequent to its presentation to the Society, providing that the original be retained in the custody of the Publication Committee.

On motion, Eugene Porter, M.D., of New York, and J. B. G. Custis, M.D., of Washington, D. C., were elected honorary members of the Society.

Dr. Bushrod W. James presented an appeal for subscriptions from the International Commission for the Restoration and Improvement of Hahnemann's Tomb.

On motion, a vote of thanks was tendered the Allegheny

County Medical Society for the courtesies shown to the Society, and also to Dr. W. W. Blair for the kind manner in which he opened his house to the Society.

Dr. Augustus Korndœrfer, Sr., made the following

REPORT FOR THE HOMŒOPATHIC STATE BOARD OF MEDICAL EXAMINERS.

Not having with me a written Report, I will simply say that the State Board has conducted its work for the last four years in accordance with the requirements of the law. The Medical Council has this year for the first time printed a complete Report of the three State Boards during the past four years. That Report will be ready for circulation within a few days. It will contain all the questions which have been asked up to last year. The last June examination will not be in it, as it was in the printer's hands before they were received. There has been a delay in the binding and in the preparation of the binding owing to a mistake made by the printer in the extracts of laws to be placed in the work. After finishing the work it was found that the printer had introduced the 1895 summary of laws instead of those for 1897. This Report will be ready now within a week or ten days; and, instead of making a lengthy statement of the work of our Board, I will say that the entire Report will be found in the Report of the Council. Everything will be there in detail up to last December.

On motion, the Report was accepted, and Dr. J. H. McClelland introduced the following preamble and resolutions:

Whereas, There have prevailed exaggerated and erroneous reports of misunderstandings between the State Homœopathic Examining Board and the Faculty of the Hahnemann Medical College of Philadelphia; and

Whereas, These two bodies have recently held a conference, at which the officers and other representative members of this Society were present and participating, at which conference the causes and occasions of misunderstanding were amicably discussed and explained, and a basis of future mutual co-operation and aid was established; therefore,

Resolved, That we, the Homœopathic Medical Society of the

State of Pennsylvania, have abundant reason to affirm our unabated confidence in the integrity and ability of the Faculty of the Hahnemann Medical College of Philadelphia, and that we have equal reason to express our unabated confidence in the integrity and ability of our State Homœopathic Examining Board, and that we therefore extend to both the assurance of our best wishes for their continued success and efficiency, and offer to them the unqualified support of this Society.

On motion of G. A. Mueller, M.D., seconded by Chas. Mohr, M.D., these resolutions were unanimously adopted.

On motion, a vote of thanks was tendered to Mr. W. M. Trew, of the Carnegie Library, for showing the members of the Society through the library.

On motion, a vote of thanks was tendered the authorities of the Pittsburg Homœopathic Hospital for the use of the Chapel for the meetings of the Society.

Dr. Pemberton Dudley moved a vote of thanks to Dr. W. H. Keim for the courteous and efficient manner in which he had conducted the office of President.

Election for officers resulted in the selection of the following:

President, B. F. Betts, M.D., Philadelphia; First Vice-President, A. P. Bowie, M.D., Uniontown; Second Vice-President, Anna C. Clarke, M.D., Scranton; Recording Secretary, George B. Moreland, M.D., Pittsburg; Corresponding Secretary, Edward M. Gramm, M.D., Philadelphia; Treasurer, J. F. Cooper, M.D., Allegheny; Necrologist, Thomas L. Bradford, M.D., Philadelphia; Censor, Thomas H. Carmichael, M.D., Philadelphia; Trustees, B. F. Betts, M.D., Philadelphia; C. C. Rinehart, M.D., Pittsburg; W. H. Keim, M.D., Philadelphia.

On motion, Philadelphia was selected as the place for the next meeting.

On motion, the West Virginia Homœopathic Medical Society was included in the list of those to whom delegates be sent by the Society.

Dr. J. H. McClelland made a report for the Committee on Hahnemann Monument, and concluded with a stirring appeal

that every member of the Society do his duty in the matter of furnishing the balance of the funds required to complete the work.

The following Sections and Committees were appointed:

Section of Clinical Medicine.—F. W. Burlingame, M.D., Chairman; Associates, Drs. Clarence Bartlett, W. D. Bayley, Mary Branson, T. H. Carmichael, Millie J. Chapman, J. H. Closson, W. H. Cooper, P. H. Ealer, W. H. A. Fitz, I. B. Gilbert, W. C. Goodno, L. B. Griffith, W. M. Griffith, O S. Haines, J. E. Harner, J. R. Horner, E. H. Kase, E. C. Parsons, L. P. Posey, J. H. Reading, Thomas Reading, C. W. Roberts, E. R. Snader, R. E. Tomlin, W. W. Van Baun, Chandler Weaver, M. D. Youngman.

Section of Gynæcology.—J. H. McClelland, M.D., Chairman; Associates, Drs. B. F. Betts, T. M. Bulick, J. A. Bullard, W. D. Carter, Sarah J. Coe, T. J. Gramm, Joseph Hancock, J. E. James, Alfred Layman, J. W. Leckie, A. A. Lindabury, Anna M. Marshall, R. S. Marshall, W. J. Martin, L. W. Reading, Emma T. Schreiner, I. G. Smedley, Pearl Starr, J. H. Thompson.

Section of Materia Medica.—C. S. Schwenk, M.D., Chairman; Associates, Drs. J. P. Birch, J. D. Boileau, Mary A. Cooke, Edward Cranch, J. C. M. Drake, W. K. Detwiller, W. G. Dietz, P. S. Duff, T. S. Dunning, D. P. Gerberich, G. H. Haas, J. G. Keelor, C. B. Knerr, A. Korndœrfer, Sr., R. P. Mercer, C. S. Middleton, Charles Mohr, G. W. Parker, Eliza F. Pettingill, W. A. Seibert, F. J. Slough, G. W. Smith, J. W. Thatcher, R. T. White.

Section of Obstetrics.—D. C. Cline, M.D., Chairman; Associates, Drs. A. W. Baily, W. S. Bigelow, C. F. Bingaman, H. M. Bunting, Isaac Crowther, B. L. Davis, W. F. Edmundson, Ella D. Goff, H. F. Heilner, C. H. Hofman, W. D. King, A. Korndœrfer, Jr., J. B. McClelland, Eliza L. McClure, E. W. Mercer, J. M. Mitchell, G. B. Moreland, Margaret H. Schantz, F. R. Schmucker, Julia G. Waylan.

Section of Ophthalmology, Otology and Laryngology.—C. M. Thomas, M.D., Chairman; Associates, Drs. W. W. Blair,

H. B. Bryson, John Cooper, Peter Cooper, H. K. Hoy, H. I. Jessup, C. H. Lee, W. H. Lyle, F. W. Messervè, G. A. Mueller, G. J. Palen, H. F. Schantz, I. G. Shallcross, William Spencer, G. W. Stewart, H. B. Ware, Flora E. Wasserman, H. S. Weaver.

Section of Pædology.—Anna C. Clarke, M.D., Chairman; Associates, Drs. W. H. Bigler, B. F. Books, F. D. Brewster, W. K. Brown, H. W. Fulton, T. P. Gittens, E. H. Hill, C. W. Perkins, Martha H. Pollock, W. E. Rotzell, J. H. Sandel, Mary Shepherd, C. D. Smedley, Mary E. Smith, T. M. Sureth, M. S. Williamson, C. A. Yocum.

Section of Pathology and Pathological Anatomy.—W. K. Ingersoll, M.D., Chairman; Associates, Drs. Francis Boyer, J. C. Guernsey, P. S. Hall, A. C. Heritage, M. J. Holben, T. M. Johnson, J. E. Jones, A. L. Kistler, A. B. Lichtenwalner, H. K. Mansfield, C. R. Norton, J. R. Phillips, C. S. Raue, E. H. Van Deusen, J. D. Ward.

Section of Sanitary Science.—A. P. Bowie, M.D., Chairman; Associates, Drs. A. M. Barnes, J. F. Cooper, Pemberton Dudley, Silas Griffith, J. H. Helfrich, B. W. James, F. W. Lange, Duncan Macfarlan, W. H. Malin, B. R. Marsden, Hugh Pitcairn, Trimble Pratt, J. P. Pursell, J. M. Reeves, D. W. Shoemaker.

Section of Surgery.—G. Maxwell Christine, M.D., Chairman; Associates, Drs. L. T. Ashcraft, F. W. Brierly, J. C. Burgher, J. W. Coolidge, E. R. Gregg, J. W. Hassler, C. H. Hofman, Malcolm Macfarlan, D. P. Maadux, H. L. Northrop, R. C. Pitcairn, S. M. Rinehart, C. P. Seip, W. G. Steele, Walter Strong, L. W. Thompson, G. A. Van Lennep, W. B. Van Lennep, C. V. Vischer, L. H. Willard.

Committee on Organization, Registration and Statistics.—George B. Moreland, M.D., Chairman; Associates, Drs. J. F. Cooper, Edward M. Gramm.

Committee on Legislation.—H. C. Chisholm, M.D., Chairman; Associates, Drs. Clarence Bartlett, W. K. Brown, Edward Cranch, J. H. Closson, Isaac Crowther, W. G. Dietz, Pem-

berton Dudley, D. P. Gerberich, Edward M. Gramm, J. C. Guernsey, W. A. Hassler, J. E. James, J. E. Jones, C. W. Karsner, E. H. Kase, W. H. Keim, Augustus Korndœrfer, Sr., D. P. Maddux, W. J. Martin, J. H. McClelland, C. S. Middleton, C. Mohr, Hugh Pitcairn, J. H. Reading, H. F. Schantz, C. S. Schwenk, C. P. Seip, I. G. Smedley, W. W. Van Baun, W. B. Van Lennep, H. B. Ware, L. H. Willard.

Committee on Publication.—Edward M. Gramm, M.D., Chairman; Associates, Drs. J. F. Cooper, George B. Moreland.

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1884—Parker, G. W., M.D., 1404 S. 6th Street, Philadelphia.
1883—Parker, T. Elwood, M.D., Woodbury, N. J.
1870—PARSONS, ANSON, M.D., Springboro.
1881—Parsons, E. C., M.D., 275 Walnut Street, Meadville.
1897—Paxson, O. H., M.D., 123 N. 16th St., Philadelphia.
1880—Peach, William, M.D., 58 Monterey Street, Allegheny.
1881—Perkins, C. W., M.D., 403 Broad Street, Chester.
1894—Peters, J. Elwood, M.D., Jenkintown.
1883—Pettengill, Eliza F., M.D., 300 N. 10th St., Philadelphia.
1891—Phillips, Joseph R., M.D., 15 E. 8th Street, Erie.
1897—Piper, R. L., M. D., Tyrone.
1880—Pitcairn, Hugh, M.D., 206 State Street, Harrisburg.
1895—Pitcairn, R. C., M.D., 5518 Ellsworth Avenue, Pittsburg.
1894—Pollock, Martha H., M.D., 210 Pine Street, Harrisburg.
1891—Pond, Edward H., M.D., 2041 Wylie Avenue, Pittsburg.
1886—Posey, L. P., M.D., 1435 Walnut Street, Philadelphia.
1896—Powel, Franklin, M.D., Chester.
1883—Powell, W. C., Jr., M.D., Bryn Mawr.
1871—PRATT, TRIMBLE, M.D., Media.
1896—Pursell, James P., M.D., Easton.
1872—RANKIN, J. S., M.D., 827 S. Negley Avenue, Pittsburg.
1897—Raue, C. Sigmund, M.D., 121 N. 10th St., Philadelphia.
1883—Reading, J. H., M.D., 1811 Green Street, Philadelphia.

1886—Reading, L. W., M.D., 1629 Green Street, Philadelphia.
1888—Reading, Thomas, M.D., Hatboro.
1896—Redman, John L., M.D., 1336 Spruce Street, Philadelphia.
1886—Reeves, Joseph M., M.D., 1609 Mt. Vernon St., Philadelphia.
1896—Ridge, Jonathan T., M.D., 1617 N. 7th Street, Philadelphia.
1878—Rinehart, C. C., M.D., Center and Aiken Avenues, Pittsburg.
1894—Rinehart, S. M., M.D., 293 Western Avenue, Allegheny.
1891—Rittenhouse, J. S., M.D., 38 S. 4th Street, Reading.
1895—Roberts, C. W., M.D., Scranton.
1880—Robson, J. W., M.D., 350 Winebiddle Avenue, Pittsburg.
1883—Rosseau, L. G., M.D., 118 S. Negley Avenue, Pittsburg.
1894—Rotzell, W. E., M.D., Narberth.
1888—Sandel, J. H., M.D., 49 Center Avenue, Plymouth.
1872—SARTAIN, HARRIET J., M.D., 212 W. Logan Square, Philadelphia.
1896—Schantz, Henry F., M.D., 402 N. 5th Street, Reading.
1892--Schantz, M. Margaret Hassler, M.D., Reading.
1874—SCHMUCKER, F. R., M.D., 228 N. 5th Street, Reading.
1883—Schreiner, Emma T., M.D., cor. Wayne and Maplewood Avenues, Germantown, Philadelphia.
1889—Schwenk, C. S., M.D., 1319 Jefferson Street, Philadelphia.
1886—Seibert, W. A., M.D., 43 N. 4th Street, Easton.
1868—SEIP, C. P., M.D., 636 Penn Avenue, Pittsburg.
1889—Shallcross, I. G., M.D., 1631 Arch Street, Philadelphia.
1879—Shannon, S. F., M.D., 631 16th Street, Denver, Col.
1883—Sharkey, W. P., M.D., 1938 Girard Ave., Philadelphia.
1885—Shellenberger, C. N., M.D., 1831 Wallace St., Philadelphia.
1895—Shepherd, Mary A., M.D., Scranton.
1892—Shoemaker, D. W., M.D., 1924 Green St., Philadelphia.
1897—Simmons, S. S., M.D., Susquehanna.
1883—Slough, F. J., M.D., 845 Hamilton Street, Allentown.
1892—Smedley, Charles D., M.D., Wayne.
1880—Smedley, I. G., M.D., 1705 Arch Street, Philadelphia.
1889—Smith, George W., M.D., 806 N. Broad St., Philadelphia.
1887—Smith, Mary E., M.D., 48 E. Diamond Street, Allegheny.
1887—Snader, E. R., M.D., 140 N. 20th Street, Philadelphia.
1894—Somerville, W. H., M.D., 1214 Hanover St., Philadelphia.
1896—Spahr, Charles E., M.D., York.
1889—Spencer, William, M.D., 1820 Chestnut Street, Philadelphia.
1881—Stambach, H. L., M.D., 15 W. Victoria St., Santa Barbara, Cal.
1889—Starr, Pearl, M.D., Bellevue.
1894—Steele, William G., M.D., 1431 Girard Avenue, Philadelphia.

1891—Stephens, W. R., M.D., Wilkinsburg.
1894—Stewart, G. W., M.D., Oak Lane, Philadelphia.
1885—Strong, J. Wilmer, M.D., 2049 N. 13th St., Philadelphia.
1889—Strong, Walter, M.D., 2049 N. 13th St., Philadelphia.
1896—Sureth, Theodore, M.D., Scranton.
1881—Thatcher, J. W., M.D., 35th and Hamilton Sts., Philadelphia.
1877—THOMAS, CHARLES MONROE, M.D., 1623 Arch St., Phila.
1886—Thompson, J. H., M.D., 515 Penn Avenue, Pittsburg.
1897—Thompson, J. J., M.D., Carbondale.
1887—Thompson, Landreth W., M.D., 1701 Green Street, Phila.
1898—Thurston, Leon, M.D., Pittsburg.
1886—Tindall, Van R., M.D., 323 Reed Street, Philadelphia.
1891—Tomlin, R. E., M.D., 2057 N. 8th Street, Philadelphia.
1896—Tortat, Albin E., M.D., 3727 Ridge Avenue, Philadelphia.
1896—Trites, Charles S., M.D., 4500 Baker St., Manayunk, Phila.
1896—Ulrich, Silvester, M.D., Middletown.
1881—Umstead, D. B., M.D., Tacony, 23d Ward, Philadelphia.
1883—Van Baun, W. W., M.D., 1402 Spruce Street, Philadelphia.
1886—Van Deusen, Edwin H., M.D., 2105 Tioga St., Philadelphia.
1896—Van Lennep, G. A., M.D., 1421 Spruce Street, Philadelphia.
1881—Van Lennep, W. B., M.D., 1421 Spruce St., Philadelphia.
1898—Van Tine, J. Lewis, M.D., 1613 Girard Avenue, Philadelphia.
1889—Vischer, Carl V., M.D., 1429 Poplar Street, Philadelphia.
1892—Waggoner, G. W., M.D., Corry.
1897—Walter, J. A., M.D., Punxsutawney.
1896—Walter, Robert, M.D., Walter's Park.
1894—Ward, J. D., M.D., 806 S. 3d Street, Philadelphia.
1894—Ware, H. B., M.D., cor. Washington and Linden Streets, Scranton.
1894—Wasserman, Flora E., M.D., 1909 N. Broad St., Philadelphia.
1894—Waylan, Julia Gould, M.D., 1832 Tioga St., Philadelphia.
1881—Weaver, Chandler, M.D., Fox Chase, 23d Ward, Phila.
1894—Weaver, H. S., M.D., 1621 Chestnut Street, Philadelphia.
1883—Weaver, W. P., M.D., Bristol.
1894—Webster, Samuel C., M.D., Media.
1891—Wesner, M. A., M.D., Houtzdale.
1889—White, Roland T., M.D., 273 Western Avenue, Allegheny.
1892—Wilbur, B. K., M.D., Sitka, Alaska.
1866—WILLARD, L. H., M.D., 236 Western Ave., Allegheny.
1866—WILLIAMS, THOMAS C., M.D., 567 N. 5th St., Phila.
1873—WILLIAMSON, M. S., M.D., 1311 Arch St., Philadelphia.
1870—WILLETS, WILLIAM, M.D., Williamsport.

1886—Wilson, C. A., M.D., San Antonio, Texas.
1887—Wolfe, W. W., M.D., 35 N. Diamond Street, Allegheny.
1897—Yetter, A. F., M.D., Moscow.
1888—Yocum, C. A., M.D., 365 Chestnut Street, Pottstown.
1880—Yoder, D., M.D., Catasauqua.
1896—Youngman, Maurice D., M.D., Atlantic City, N. J.
1894—Ziegenfus, A. Frank, M.D., 1124 Wallace St., Philadelphia.

HONORARY MEMBERS.

1883—Allen, H. C., M.D., 5401 Jefferson Street, Hyde Park, Chicago, Ill.
1898—Custis, J. B. Gregg, M.D., 110 E. Capitol Street, Washington, D. C.
1866—Doran, Charles R., M.D., Jacksonville, Fla.
1868—Helmuth, William Tod, M.D., 158 W. 59th St., New York.
1885—Houghton, Henry C., M.D., 12 W. 39th St., New York.
1876—Jones, S. A., M.D., Ann Arbor, Mich.
1868—Paine, H. M., M.D., West Newton, Mass.
1883—Phillips, W. A., M.D., Cleveland, Ohio.
1898—Porter, Eugene H., M.D., 181 W. 73d Street, New York.
1868—Rockwith, F. A., M.D., East Saginaw, Mich.
1868—Talbot, I. T., M.D., 66 Marlborough St., Boston, Mass.
1892—Williamson, Alonzo P., M.D., Fergus Falls, Minn.

CORRESPONDING MEMBERS.

1873—Alvarez, Paz, M.D., Madrid, Spain.
1873—Chauvet, Fernand, M.D., Tours, France.
1873—Eidherr, Francis, M.D., Vienna, Austria.
1883—Hughes, Richard, M.D., Brighton, England.
1873—Pope, Alfred C., M.D., London, England.

NECROLOGICAL LIST.

1866—Ashton, A. H., M.D., died February 18th, 1883.
1866—Barnaby, John E., M.D., died January 5th, 1869.
1867—Barrett, Charles B., M.D., died June 5th, 1871.
1882—Bernard, H., M.D., died ———
1866—Blakeley, W. James, M.D., died January 14th, 1877.
1870—Bratt, Benjamin R., M.D., died January 31st, 1872.
1866—Brooks, Silas S., M.D., died July 2d, 1871.
1883—Brown, Samuel, M.D., died March 22d, 1892.
1885—Buchman, Francis, M.D., died July 14th, 1898.
1883—Burr, Richard, M.D., died March 30th, 1885.
1873—Caruthers, R. E., M.D., died January 3d, 1885.
1868—Charlton, S. T., M.D., died November 9th, 1886.
1863—Childs, William R., M.D., died November 11th, 1888.
1866—Cook, William H., M.D., died March 11th, 1879.
1866—Cote, M., M.D., died May 29th, 1878.
1866—Cowley, David, M.D., died October 30th, 1886.
1868—Dake, J. P., M.D. (honorary), died October 28, 1894.
1866—Detweiler, Henry, M.D., died April 21st, 1887.
1886—Dowling, John W., M.D. (honorary), died January 14th, 1892.
1871—Dreibelbis, David L., M.D., died March 24th, 1872.
1870—Earhart, Jacob R., M.D., died June 23d, 1891.
1870—Farrington, E. A., M.D., died December 17th, 1885.
1880—Ferson, John L., M.D., died July 12th, 1896.
1866—Freise, Michael, M.D., died February 4th, 1880.
1866—Frost, J. H. P., M.D., died January 21st, 1875.
1866—Gardiner, Richard, M.D., died March 22d, 1877.
1866—Gause, O. B., M.D., died January 11th, 1895.
1886—Griffith, Jethro J., M.D., died July 5th, 1893.
1877—Grumbeid, William, M.D., died———
1866—Guernsey, H. N., M.D., died June 27th, 1885.
1870—Guernsey, W. F., M.D., died February 16th, 1877.
1895—Hall, William D., M.D., died August 2d, 1897.
1888—Hawley, S. B., M.D., died March 6th, 1890.
1886—Herron, James A., M.D., died November 15th, 1868.
1866—Hofmann, Herman H., M.D., died April 4th, 1891.

1886—Holcombe, John Randolph, M.D., died December 17th, 1896.
1884—Hosfeld, George, M.D., died November 9th, 1884.
1873—Houard, J. G., M.D., died April 24th, 1878.
1882—Ivins, Horace F., M.D., died January 1st, 1899.
1866—James, David, M.D., died June 6th, 1873.
1866—Jeanes, Jacob, M.D., died December 18th, 1877.
1866—Koch, Augustus W., M.D., died May 4th, 1886.
1889—Lazear, Lyttleton L., M.D., died ——— 1898.
1866—Lee, J. K., M.D., died November 10th, 1887.
1869—Lee, John K., M.D., died May 31st, 1889.
1876—Lilienthal, S., M.D. (honorary), died October 3d, 1891.
1867—Lippe, Adolph, M.D., died January 23d, 1888.
1871—Lovejoy, E., M.D. (honorary), died August 15th, 1872.
1868—Malin, George W., M.D., died January 18th, 1883.
1886—Malin, John, M.D., died November 29th, 1889.
1866—Marsden, J. H., M.D., died August 27th, 1883.
1865—Martin, Noah, M.D., died September 1st, 1889.
1881—May, Newton, M.D., died January 27th, 1889.
1866—McClatchey, R. J., M.D., died January 15th, 1883.
1870—Moore, Thomas, M.D., died March 25th, 1882.
1873—Nichol, Thomas, M.D. (corresponding), died June 14th, 1890.
1869—Ostrander, W. M., M.D., died August 23d, 1881.
1868—Payne, Wm. E., M.D. (honorary), died March 9th, 1877.
1878—Pereira, Ignacio, M.D. (corresponding), died April 18th, 1881.
1868—Pfoutz, J. S., M.D., died ———
1866—Preston, Coates, M.D., died August 9th, 1881.
1868—Pulte, J. H., M.D. (honorary), died February 24th, 1884.
1882—Pursel, J. E., M.D., died March 15th, 1885.
1866—Raue, Charles G., M.D., died August 21st, 1896.
1853—Reading, Edward, M.D., died March 7th, 1889.
1866—Reading, John R., M.D., died February 14th, 1866.
1870—Reinhold, H. E., M.D., died March 6th, 1879.
1871—Rittenhouse, S. R., M.D., died June 26, 1895.
1866—Roberts, R. Ross, M.D., died April 4th, 1875.
1887—Rodes, Joseph, M.D., died ———, 1898.
1866—Rosseau, L. M., M.D., died September 25th, 1882.
1872—Scott, James L., M.D., died August 15th, 1876.
1883—Skeels, James S., M.D., died ——— 1891.
1870—Spencer, J. H., M.D., died ———
1872—Speth, W. F., M.D., died May 11th, 1881.
———Stauffer, D. R., M.D., died March 16th, 1874.
1867—Stevens, C. A., M.D., died January 17th, 1881.

1870—Taudte, F., M.D., died March 27th, 1878.
1871—Thomas, Amos R., M.D., died October 31st, 1895.
1891—Tindall, Harry Brooks, M.D., died January 9th, 1892.
1882—Trites, W. B., M.D., died January 19th, 1890.
1867—Walker, Mahlon M., M.D., died March 31st, 1896.
1870—Waters, George H., M.D., died ——— 1892.
1880—Way, J. H., M.D., died September 3d, 1887.
1866—Williamson, Walter M., M.D., died December 19th, 1870.
1866—Williamson, Walter, M.D., died May 5th, 1874.
1848—Wood, James B., M.D., died April 14th, 1889.
1874—Young, J. H., M.D., died June 21, 1894.
1880—Zerns, Wm. M., M.D., died September 21st, 1887.

MEMBERS AND VISITORS REGISTERED AT THE MEETING.

C. C. Anderson.
L. T. Ashcraft.
A. W. Baily.
J. T. Biddle.
C. F. Bingaman.
W. W. Blair.
A. P. Bowie.
John S. Boyd.
E. W. Brickley.
F. Walter Brierly.
C. Sheble Brown.
H. B. Bryson.
M. J. Buck.
F. W. Burlingame.
T. H. Carmichael.
S. B. Challinor.
Millie J. Chapman.
G. M. Christine.
Daniel Christy.
Anna C. Clarke.
J. H. Closson.
W. C. Cook.
J. F. Cooper.
W. H. Cooper.
Edward Cranch.
S. W. S. Dinsmore.
Pemberton Dudley.
P. S. Duff.
W. F. Edmundson.
J. R. Fleming.
H. W. Fulton.
I. B. Gilbert.
Ella D. Goff.
V. S. Goggin.
Edward M. Gramm.
Theodore J. Gramm.
H. L. Grote.
Ada F. Hall.
D. R. Harris.
W. K. Ingersoll.
M. R. Jamison.
W. H. Keim.
A. L. Kistler.
D. C. Kline.
Aug. Korndœrfer, Sr.
A. B. Lichtenwalner.
A. A. Lindabury.
Evelyn E. Littell.
H. F. Littell.
R. S. Marshall.
W. J. Martin.
J. C. McCauley.
J. B. McClelland.
J. H. McClelland.
Wm. McCracken.
Z. T. Miller.
Charles Mohr.
S. B. Moon.
Geo. B. Moreland.
G. A. Mueller.
H. S. Nicholson.
E. C. Parsons.
J. K. M. Perrine.
R. C. Pitcairn.
E. H. Pond.
James P. Pursell.
H. E. Ramsey.
C. S. Raue.
S. M. Rinehart.
M. Hassler Schantz.
C. S. Schwenk.
C. P. Seip.
J. A. Shaffer.
A. C. Shupe.
I. G. Smedley.
J. N. Smith.
E. R. Snader.
Pearl Starr.
H. W. Taylor.
Jas H. Thompson.
A. B. Twitchell, Jr.
W. B. Van Lennep.
Anna D. Varner.
E. R. Walters.
H. B. Ware.
H. S. Weaver.
Thos. Welsh.
C. I. Wendt.

PAPERS

AND

DISCUSSIONS.

REPORT OF THE SECTION OF PÆDOLOGY.

The Diathetic Diseases and Their Influence upon the Course and Treatment of the Acute Illnesses of Childhood, by C. Sigmund Raue, M. D.
The Value of Variations of Temperature as Indications for Treatment in Diseases of Children, by W. H. Bigler, M.D.
Enuresis, by F. W. Burlingame, M.D.
Barlow's Disease, by Millie J. Chapman, M.D.
Physiological Feeding of Children, by Bushrod W. James, M.D.
Diarrhœa and Indigestion in Children, by Wm. A. Seibert, M.D.

THE DIATHETIC DISEASES AND THEIR INFLUENCE UPON THE COURSE AND TREATMENT OF THE ACUTE ILLNESSES OF CHILDHOOD.

C. SIGMUND RAUE, M.D., PHILADELPHIA.

For an acute illness to run a classical, uncomplicated course, its occurrence in a perfectly normal constitution, devoid of all diathetic taint and temperamental abnormality, is the essential requirement. Repeated careful clinical observation verifies this proposition. The influence of the structural peculiarities designated as diathesis upon the course of illnesses affecting individuals thus stigmatized is so marked that their recognition and interpretation will enable us to not only foretell the type which the disease will assume, but also give the key to treatment and decide the ultimate prognosis.

In order to fully appreciate the importance of this subject and clearly understand the rationale of the above assertions and of what will be said further on regarding treatment and prognosis, a brief *résumé* of these diseases, together with their pathology and clinical characteristics, will be undertaken as prefatory remarks.

Syphilis, rickets, tuberculosis and rheumatism are the four

constitutional disorders having a practical bearing upon the diseases of childhood, both from the frequency of their occurrence and the true diathetic condition presented by each. Syphilis and rickets are closely associated clinically, although the relationship between the two diseases is by no means a necessary one. Both occur early in infancy, but the symptoms of syphilis appear in the earliest months of life, while rickets seldom develops before the sixth month.

Tuberculosis and scrofula are nowadays described as synonymous terms; in fact, the typical tubercular diathesis is exemplified in the old erethetic scrofulous type, but the phlegmatic scrofulous type is quite distinct from this, as will be seen later on. Tuberculosis does not usually manifest itself as early as syphilis and rickets; in exceptional cases, however, it may appear at a most tender age. Scrofulous conditions seldom develop before the second year of life, and here we have a similarity with the rheumatic diathesis, which seldom shows its tendencies before this time.

Syphilis manifests itself by characteristic lesions of the mucous membrane and skin. Besides this there is anæmia and a diffuse interstitial hyperplasia of the connective tissue of internal organs. These pathological conditions exert a potent influence upon the child's nutrition through the destructive changes induced in the liver, lungs and digestive glandular system, giving the patient a characteristic appearance. The child is under-developed, the skin is shrivelled and yellowish, and the face wears an anxious, old expression.

The first signs to appear are usually the affections of the mucous membrane—acrid coryza; snuffles; hoarse, plaintive cry; mucous patches in the mouth, and gastro-enteric catarrh, inducing foul-smelling diarrhœa. In mild cases the cutaneous lesions are a simple erythema or round and oval macules on the buttocks and lower portion of the abdomen; in the more severe types pustules and blebs are likely to occur.

Besides this, condylomata around the margin of the anus, ulcerating papules on the genitals and pustular lesions on the buttocks and head, forming thick, greenish crusts which leave an ulcerated surface on being removed, are commonly found.

Osteochondritis is a pathognomonic symptom, but the condition is not invariably found.

Among the later manifestations of congenital syphilis (syphilis congenita tarda) are the affections of the bones, teeth and organs of special sense. Thus the periostitis and necrosis of the bones of the nose, resulting in the flattened bridge of the same; the prominent forehead, with a central depression; the irregular teeth, with notched upper central incisors—Hutchinson's teeth; interstitial keratitis and deafness.

Rickets seldom shows itself before the sixth month, and in its early stage it is only recognizable by a careful scrutiny of the case. As a rule, this disease does not attract attention until marked bone lesions and deformities have developed—a period at which, unfortunately, our best opportunities for treatment have slipped by.

This diathesis presents an anæmic, flabby, unresisting constitution, in which perverted nutrition is the prominent feature. The osseous system bears the brunt of the disturbances. The process of cartilaginous and subperiosteal cell-growth is excessive, while the deposit of lime-salts for the completion of the process of ossification is below normal. Besides this, there is excessive destruction of bone already formed, through an abnormally active formation of medullary canals and canaliculi.

The child's appearance is characteristic when the osseous changes are well advanced. The head is large and square, the chest small and laterally depressed, with prominent sternum—the so-called chicken-breast. More commonly the peri-pneumonic groove of Trousseau and beading of the ribs. The epiphyses are enlarged, notably in the wrists; the abdomen is large and distended.

The muscular system and ligaments are lax; the spleen is enlarged, and anæmia is a prominent symptom, leucocytosis being present with the splenic enlargement. Local sweating, especially about the head, is another prominent symptom. Disturbances in the nervous system show themselves as heightened reflex irritability, with insufficient inhibitory control.

A type again distinct from the foregoing is the tubercular diathesis. These little patients, doomed to succumb to the

ravages of tuberculosis, are perhaps the most pitiable objects encountered by the pædiatrist. We recognize them by their delicate, "airy, fairy" appearance; frail constitution; small, slender bones; slight muscular development; their transparent skin, through which large blue veins are prominently shown; soft, silken hair; long eyelashes; bright, languid eyes; oval face. They are of a passionate and lovable disposition; the mind is active and precocious, and restraint, rather than coaching, is necessary to keep the delicate nervous organization in equilibrium.

These are the cases in which general tuberculosis finds such a favorable soil and strong foothold, the slightest provocation in the form of some acute illness sowing the seed for the commencement of the trouble.

The scrofulous diathesis, which likewise invites tubercular processes, of a different character, however, shows itself quite apart from the above. The phlegmatic type of scrofula, which is the true scrofulous diathesis, is characterized by large frame; large coarse features; thick lips and nose; coarse, doughy skin with abundant subcutaneous fat; large, distended abdomen; enlarged lymphatic glands in the cervical and other regions; eczematous eruptions. The muscular system is feeble, the pulse soft and weak, and the temperature often subnormal from deficient oxidation of tissue.

In these children tuberculosis becomes a local affection, chronic in its course, and attacking chiefly the lymphatic glandular system and the joints, which present a peculiar vulnerability of tissue.

The purely tubercular and scrofulous types are quite distinct, but it is not invariably found so in practice, and frequently cases can only be classified from a preponderance of conditions favoring the one or the other. Again, I have repeatedly seen the transition from one type to another. This is an observation of definite significance to the pathologist and therapeutist.

Of the rheumatic diathesis little more can be said than that it is an hereditary predisposition to certain forms of arthritism and abarticular rheumatic phenomena, a series of affections characterized by a retardation in the process of nutrition. It

invites conditions which are acute and have a tendency to appear in recurring attacks, and eventually exert an important influence upon the circulatory and nervous system.

Acute articular rheumatism is rare during childhood, but in its place we will find acute recurring tonsillitis and pharyngitis; bronchitis; erythema, urticaria and purpura; endocarditis and pericarditis; subcutaneous fibrous nodules and chorea to indicate this dyscrasia.

Let us now consider the practical bearing of the recognition of these types of morbid constitutional peculiarities. Rachitic children, it is well known, are very prone to develop catarrhal affections. The same show a marked tendency to run a tedious course, as a result of structural changes and ulceration of the mucous membrane.

Again, owing to the peculiar condition of the nervous system, trifling ailments are likely to be ushered in with convulsions, and in fact convulsions after the first year should always lead us to suspect rickets. During an illness they emaciate rapidly and convalescence is much protracted; frequently children who were beginning to walk nicely require weeks to regain this function. By a recognition of the true reason for this delayed convalescence or sustaining cause for a disturbance, in other words, by direction of our attention to the rickets, treatment will be carried out on the most successful lines.

Pneumonia is likely to run a most rapid and alarming course, death frequently occurring within forty-eight hours of the initial rise of temperature; the patient succumbs to hyperpyrexia. The anæmia and leucocytosis may account for this, as there is very rapid infiltration and marked pulmonary œdema associated with the process. The mechanical impediment offered by the soft condition of the ribs to a full expansion of the lungs under interference of any kind with the normal respiratory function must also be borne in mind in any disease of this tract.

Syphilitic children show a poor chance against most acute illnesses, as one would naturally infer from a knowledge of the grave character of its pathological processes, and they most frequently succumb to intestinal and pulmonary disturbances.

Nevertheless, syphilis *per se* is likely to yield kindly to treatment, and therefore much can often be done for these patients by constitutional treatment. The best results are obtained by symptomatic prescribing, remembering that although mercury and its compounds is the most frequently called for remedy, nitric acid, kali bichr., kali jod., aurum, kreosotum and thuja are all indispensable.

In acute pulmonary and most acute infectious fevers the presence of the tubercular diathesis offers a most unfavorable omen for the recovery of our little patients. Tubercular broncho-pneumonia, tubercular meningitis and acute general tuberculosis all follow in the wake of the acute infectious fevers, especially measles, whooping-cough, typhoid fever and influenza. An ordinary broncho-pneumonia will become tedious; the temperature remits, leading us to suspect a malarial condition or even typhoid fever; but the case continues, in spite of our best directed efforts, towards a fatal termination. Our sheet-anchor here is arsenicum, arsen. jod., calc. c., silicea and sulphur. In the absence of strong indications for another remedy I employ iodoform, 3x to 12x trituration, with the greatest confidence, and it has certainly yielded most gratifying results in desperate cases under my care.

Among the dangers to the scrofulous child are ophthalmia and otitis. In the former permanent injury to the cornea may be anticipated, while in the latter life is immediately at stake, for tendency to caries of the temporal bone carries with it the possibility of a future cerebral abscess.

Skin eruptions in the strumous run a prolonged, stubborn course; so with catarrhal affections which are characterized by irritating, offensive discharges, inducing eczema and lymphadenitis in adjacent parts. The scrofulous diathesis predisposes to croup, hydrocephalus and tuberculosis, and it is claimed that the majority of children dying of these affections are scrofulous. The remedies suggested are numerous and suit as well to the acute conditions as the chronic underlying dyscrasia.

The influence of the rheumatic diathesis is perhaps most strongly exhibited in affections of the serous membranes. When the thoracic viscera are involved the results of such a predisposition are most grave, and we frequently see both peri-

carditis and endocarditis and pleurisy in the same subject, making recovery very doubtful.

A simple sore throat assumes the type of rheumatic angina; permanent deformities, such as wryneck and stiff joints, are likely to follow upon a simple inflammatory process. The rheumatic remedies are particularly applicable to all of these conditions, notably bryonia, cimicifuga, guaiacum, phytolacca and rhus.

The symptomatology of many of our remedies is so suggestive of types of constitution that they are readily recognized clinically. Thus, the calc. phos. baby is too well known to require description here, and the value of this knowledge is inestimable in the sick-room, no matter what the condition may be, whether acute or chronic, pulmonary or intestinal, etc.

Strike at the foundation—this is the lesson taught by these examples. All acute conditions can but assume the type of the soil upon which they grow, and their course and treatment follow accordingly.

DISCUSSION.

Dr. T. H. Carmichael: The question of the diathesis is one of great interest to physicians of our school, and has been from the very beginning, as has already been well said by Dr. Raue in the closing part of his paper. The greatest success in prescribing is by keeping this matter in view, and by making it the prime point in our prescriptions. How frequently, in prescribing for the incidental symptoms of the case, we are at fault, and it is only when looking for the diathetic remedy or tissue remedy according to the principles of *similia*, and not technically, according to Schuessler's method, do we achieve a brilliant result, and frequently in cases that have puzzled many previous prescribers. I think it is a subject that benefits us all.

Dr. Edward Cranch: In speaking of the diathesis of children, I would like to remind the Society that the rheumatic diathesis is of very widespread importance. One of the universal symptoms of childhood is the complication of sand in the urine. The very first symptom is a deposit of red sand, and we must look out for complications later in life. We also

see tonsillitis and pharyngitis, and even common canker of the mouth and acidity of the stomach. A great deal of attention must be paid to the diet in these cases; we find we have to call in a wet-nurse where artificial food will not keep the child alive. In such cases, if the diet is not cared for, the kidney will suspend operations, and the child die of uræmic convulsions. Destruction of the urinary tract has come from stone in the bladder and lithæmic deposits in the kidneys. That is the first indication to look for to see whether the patient is subject to rheumatic or arthritic diathesis. It is said by some that it attacks one-third of the human race, and when it is accompanied by scrofulous and tubercular troubles, then the case is vulnerable. In that connection I have never been able to have good results with any form of sterilized milk. I say it is incompatible to assimilation by those babies, and I feel the necessity of urging variety in diet, especially by giving those things that are not "shelf goods," that have remained on the shelves of the drug-stores for a long time, as in a case the other day in which a bottle of malted milk was purchased, and the child was nearly killed. Even when fresh it is not as good as that coming from the dairy and prepared at home. The preparation of fresh cream with simple hot water added, and, in the next place, the addition of a sufficient quantity of sugar of milk, is admirable. In these cases we have special trouble from constipation, and that is met by increasing the quantity of sugar of milk.

THE VALUE OF VARIATIONS OF TEMPERATURE AS INDICATIONS FOR TREATMENT IN DISEASES OF CHILDREN.

W. H. BIGLER, M.D., PHILADELPHIA.

In the treatment of disease in children it must be remembered that their nervous system is in a state of immature development, and that the co-ordinations and connections with the reflex and cerebral centres are in a formative stage, and that, therefore, the reactions to stimuli, both from within and

from without, are apt to be excessive, and the resultant objective symptoms more dangerous in appearance than in reality, as regards prognosis. It becomes, hence, of the utmost importance in all cases to exercise all our powers of observation, when examining our little patients, that no circumstance, however trifling, may be overlooked which might be the cause of apparently remote symptoms.

This holds good particularly in estimating the significance of oscillations in temperature. We believe that even in the treatment of disease in adults the clinical thermometer has been, and still often is, a much-abused instrument of precision, and that its indications for treatment, when taken alone, as is so often done, are misleading and mischievous. It is, however, especially in diseases in children that the greatest care is to be exercised not to allow these indications to have too great weight in our diagnosis, prognosis and treatment.

There is not in the whole human system, from a physiological standpoint, a more interesting subject than that of the regulation of the temperature of the body—thermotaxis. The beautifully co-ordinated mechanism by which, under the most varied circumstances, the temperature is normally kept constant, needs to be thoroughly understood if we would appreciate the true value of the changes which occur in disease, and more particularly in children.

As we all know, the immense amount of heat generated within the body is so dissipated and its production so regulated that the temperature of the blood remains pretty constantly at 100° F., in the adult. In children it is somewhat higher, and in infants considerably so, and this under perfectly normal conditions. The thermometric mechanism is therefore "set" at one period higher than at another, and the various means for keeping a certain temperature are so co-ordinated as to produce this result. We cannot doubt that the higher norm in the infant and child is one of the numerous provisions of Nature for the protection of the individual against the injurious influences which threaten him during these periods, especially in a natural condition. In these years, and until the definite adult norm has been established, the heat mechanism is in a

state of unstable equilibrium, and the variations in heat-production (thermogenesis) and heat-dissipation (thermolysis) are much more marked, and more readily produced, but, on that very account, much less significant. While, therefore, variations in temperature may have their significance, the degree of variation will not be proportionately important.

This is the point of this paper, and one which I have considered of sufficient moment to bring before you, to assist in the reaction against the antipyretic craze, which, by the aid of the various coal-tar preparations, has filled many a premature grave. I have so often seen the unnecessary alarm of the physician, and through him communicated to the family, caused by what, in the adult, would have been an alarming rise in temperature, occurring either suddenly in the midst of apparent health, or in the course of some other indisposition. In consequence of such misunderstanding of the true value of the symptom it has been taken as an indication in treatment to the damage of the patient.

Of course we will find in children, as we find in adults, certain types of thermometric changes, hectic, typhoid, etc., marked by well-known diurnal variations, but what we wish here to emphasize is the fact that within these types, as well as in the general fluctuations of temperature, the degree of variation is in most cases in children not only a useless but even a misleading indication for our prognosis and treatment.

Among the circumstances apt to cause a rise in temperature in the child out of all proportion both to the cause and to its consequences are gastric, but more particularly intestinal, disturbances. Acute indigestion is very prone to raise the temperature, especially after the offending food has left the stomach, lasting until it has left the body. Occasional constipation is often accompanied by a rise in temperature to a degree which, if taken by itself, would be sufficient to cause alarm. Emotional disturbances of all kinds, excessive exercise of mind or body, may initiate an unbalancing of the thermotaxic mechanism, resulting in an exceedingly high temperature, which proves itself, without treatment, to be perfectly harmless. During the course of other diseases the fall in temperature following the crisis is frequently so great as to call forth groundless appre-

hension, and prompt a recourse to measures which, if not harmful, are at least unnecessary.

To sum up: While decided variations in the temperature of children should cause us carefully to search for a cause, the degree of variation does not furnish us with reliable indications for prognosis or for treatment.

ENURESIS.

F. W. BURLINGAME, M.D., M'KEESPORT.

With all due respect to the memory of Eugene Field, who threw a flavor of romance around this disease when he wrote the verses entitled "When Willie Wet the Bed," I would say that to the physician who is obliged, in the course of his duties, to attend "little Willie," who is lying sick on a water-soaked mattress, the romance takes wings, but the flavor is still very much in evidence.

Willies of both high and low degree are victims (or shall I put it that mothers of both high and low degree are victims?); for the poor mothers, in the majority of cases, are certainly the worse sufferers, and it seems that they are to a great extent helpless sufferers, or so consider themselves, for a large proportion of mothers deem it useless to even consult a physician on the subject.

I believe that the majority of physicians have made more failures than cures in the treatment of enuresis. Perhaps I am wrong; I quote no authority, but judge from my own observations on the matter.

In taking up this subject I do not expect to be able to add anything to what has already been written with regard to varieties or causes, probably not as to cure; but I have had in the past three years some cures with the use of a certain remedy that to me seemed wonderful.

This, together with the fact that I was informed by the representative of one of the leading pharmacies in the country

that there was a small call for this remedy, led me to think that while, perhaps, not telling anything new, I might be able to refresh your memories and recall to your minds a perhaps neglected remedy—but more of the remedy later.

By enuresis we mean incontinence or involuntary emissions of urine. We have enuresis nocturna, enuresis diurna, and incontinence continuing both day and night.

There are many causes for the trouble, though I will content myself with mention of a few of the most prominent.

A great many cases are due to simple weakness in the neck of the bladder. Krauss divides the causes into four groups, viz.:

1. "Functional disturbances of the genito-urinary organs, causing irritation, as tight prepuce, irritable clitoris, narrow meatus, sensitive urethra, weak sphincter, and ascarides in rectum."

2. "Cerebral nervous disorders, precocious and pernicious mental development, and dreams."

3. "Failure of spinal reflex, as in locomotor ataxia, or tumors of cord."

4. "Organic changes of genito-urinary tract."

Another author believes that "the exciting cause of nocturnal enuresis in boys to be the incomplete closure of the prostatic urethra during the general muscular relaxation of sleep."

Still another writer believes the exciting cause to be "the result of weakness of the spinal cord, which loses its power to transmit to the brain the impression of distention of bladder."

And so on—theories in abundance, many, no doubt, correct; but, correct or not, we have the condition to combat. We should not be too quick jumping at conclusions with regard to the source of this trouble. The patient should be thoroughly examined to ascertain whether the cause may not be due to mechanical irritation.

The rectum should be examined for seat-worms. These little pests often crawl into the vagina and cause irritation. Polypoid excrescences have been found at the neck of the bladder in girls.

The external genitals should be examined. Look for phi-

mosis, sensitive clitoris, balanitis, vulvitis and sensitive urethra. Malformations of urethra or bladder must be looked for.

It may be necessary to examine the urine. If the child is old enough to question, find out if it dreams of urinating or of a desire to urinate.

I have passed over a few of the exciting causes of enuresis briefly, and quotation marks form an important factor in what I have written; for, to tell the truth, I haven't an original idea on the subject of causes.

Had I not had several articles on the subject before me, I would have been stuck long before this. "Confession is good for the soul."

In the treatment of enuresis, when the cause is mechanical, remove the cause. There is a whole chapter in that sentence, and it saves considerable copying on my part.

Of remedies there are several that have done good service: Rhus aromatica, when there seems to be a lack of tone in the sphincter; bell., when there is irritability of the bladder.

The remedy to which I wish particularly to call your attention is equisetum.

I never succeeded in effecting a permanent cure of enuresis with remedies until I used equisetum. Probably the fault was mine as a prescriber, but the fact does stand that I have effected several what seemed to me to be brilliant cures with this remedy, giving generally from 5- to 10-drop doses of the tincture.

The first case I have to report is of a four-year-old boy, bright and lively of disposition.

He seemed to be unable to control himself either night or day.

His mattress was soaked by night and his clothes by day.

Several physicians had been given a trial on the case without relief before it was turned over to me. I tried bell. and rhus. arom. with only temporary relief. I finally had my attention called to equisetum, which I gave in 5-gtt. doses. The results were quick and favorable.

The second week of treatment the child had only one relapse at night and two during the day.

Fourth, fifth and sixth weeks, clear record. The seventh week he fell from grace once at night, the mother giving as the cause that the child was unusually tired and had partaken freely of watermelon during the evening.

I continued the treatment, all told, ten weeks, and in three years there has been no recurrence of the trouble. I call that a permanent cure.

Another case of enuresis nocturna brought me as a result of the cure just mentioned was that of a young girl aged seven years, a very modest, sensitive child, who could not bear to have the subject mentioned before a stranger.

The mother had tried all known home remedies, and had (on advice) examined the child for seat-worms without result.

The girl had been afflicted practically since her birth. She was of average intelligence; in fact, nothing particular about her differed from the ordinary seven-year-old girl.

Equisetum ϕ 8-drop doses was given, with the most favorable results. She took the medicine only one month, when the trouble ceased altogether, although I continued the treatment, giving two, and then one, dose per day for two months after the favorable report was given. There has only been one lapse in two and one-half years. I call that another cure.

Another case of "a beautiful girl just budding into womanhood." (I am obliged to use quotation marks again in that last sentence. I saw it in print somewhere, and it fits my case.) She had been afflicted since she was a mere child. She dare not leave home to visit friends or relatives, on account of the shame and mortification her weakness caused her.

I took the case last February. I gave equisetum ϕ. I cannot say that the cure is permanent, but I believe that it is. Suffice it to say that there has been no recurrence of the trouble since the second week of treatment. This summer she visited friends for several weeks, and had no cause for shame or apologies.

An "Old-School" friend of mine effected two cures about a year ago with equisetum, given on my suggestion. He had exhausted all his resources by remedies, introduction of steel sounds, application of nitrate of silver to neck of bladder, etc., with no results.

Now, I could give a number of similar cures, but they would be virtual repetitions. I do not recommend this remedy as a specific for all cases of enuresis. It has done good work in my hands. All cases have not been successful, but nearly all.

If you have overlooked this remedy in prescribing for your cases, give it a trial. It may help you.

DISCUSSION.

Dr. W. K. Ingersoll: Some children have a peculiar predisposition to nocturnal enuresis. It is not always, I think, a question of bladder, sphincter or reflex irritation. One of the most noted authorities of England has said that rickets is an error in the relation of the fluids and solids in the body; that sometimes there is too much fluid and then too little; that the arrangement by which the fluids are kept in the right proportion in the body becomes disarranged. I thought I would speak of this as a little point of interest in reference to how the body keeps a certain proportion of liquid in the tissues. You will recollect in the kidney the descending loop of Henle is very narrow, and lined with quite large ovoid epithelial cells, placed alternately, so that the lumen of the tube is very small and spiral in its course; around these tubes are fibres of smooth muscle, controlled by nerves contracting or relaxing, diminishing or enlarging the caliber of the tube, allowing little or much water to be excreted with the solids of the urine according to the demands of the system. These little tubules hold the mechanism by which the proper proportion of fluids and solids is kept in the body, and if there is a weakness in the smooth muscle fibre or in the nervous mechanism around the descending loops of Henle you have a large amount of urine pass from the kidney to the bladder; the bladder fills up in a short time, and the pressure is so great that urination becomes necessary in order to get rid of it.

Dr. L. T. Ashcraft: This paper is certainly a very instructive and exhaustive one. The treatment of enuresis has troubled all of us, I have no doubt. The condition as explained by Dr. Burlingame, and beautifully supplemented by Dr. Ingersoll, is one which Dr. Ingersoll taught me as a student of Hahne-

mann, and one which I have always thought to be partially caused by polyuria, bringing about overdistention of the bladder, producing vesical incontinence, and, by reflex action, allowing the patient to urinate involuntarily. Some time ago, in the *Transactions of the Pædological Society*, of London, I read that adenoid vegetations in the naso-pharynx were attributed as a cause of enuresis. We all know the reflex causes, such as phimosis, tight meatus and hæmorrhoids; and we have, too, found out that circumcision and meatotomy and the removal of these conditions have not always sufficed to bring about a cure, although the condition cannot be cured without the removal if these causes are present. I have obtained very good results from equisetum in some cases.

BARLOW'S DISEASE.

MILLIE J. CHAPMAN, M.D.

It is now twenty years since Cheadle, of London, called attention to cases of scurvy among infants and children supervening on rickets. Barlow described the anatomical conditions as determined by autopsies, and a generous profession at once rewarded his scientific efforts by classing the partnership of scurvy and rickets as Barlow's disease. England furnishes the greatest number of cases reported and the most literature upon the subject. In 1894, Huebner stated that outside of England only fifty cases had been observed in the past thirty years; fifteen of those were American. Since then Rotch reports that he has treated seventy cases; another author twenty; several others three or four each. Doubtless the added list reported is due to a more careful observation rather than an increase of this form of disease. It is supposed to be of chemical origin, due to the persistent deprivation of fresh food. It is not surprising that many adults in the Klondike fields to-day are suffering from scurvy, the environment contributing to this condition. But infants are afflicted with a

similar disease, whether blessed with princely surroundings or dwelling in the haunts of poverty, if deprived of the natural food and sustained for a prolonged term upon some of the many canned, condensed, baked, boiled, powdered, malted, or otherwise manufactured articles. Our zeal to combat microbes and bacilli by administering milk only after it has been pasteurized, sterilized or diluted, has no doubt been an element in the development of this morbid state.

Most cases occur between six months and two years of age. The various authors agree upon the characteristics of the disease, viz.: marked anæmia, tendency to ecchymosis about the eyes, œdema of the upper eyelids, swelling and sponginess of the gums when teeth are present; purpuric spots on limbs; hæmaturia and intestinal hæmorrhage; a predominance of lower-limb affection; immobility, going on to pseudo-paralysis; excessive tenderness; swelling; skin shiny and tense but seldom pitting; no undue local heat; thickening of the shafts of bones, due to subperiosteal hæmorrhage; liability to fracture near the epiphyses. A child who has seemed well gradually becomes pale, wasted, irritable, and manifests pain on handling; excessive tenderness of the lower limbs when moved at all; the child constantly moaning or screaming with agony. These symptoms have been mistaken for rheumatism, and in one case for injury of the spine, and was treated with a plaster jacket and other accessories of the heroic school. The child had been fed on malted milk ten months, pasteurized cream added later a portion of the time, and had been given until it learned to call for the beverage of its nurse. Green tea—the English reports ascribe the use of tea among the causes of scurvy. The reports of those treating the largest number prove that the most aggravated cases rapidly improve upon a change of diet in which the list includes fresh milk, meat, vegetables or fruit-juices. No doubt all cases would be avoided if the diet was varied sooner. Since there are so large a number of children bottle-fed and thus liable to this disease, which if not wisely treated gradually proves fatal, it is of the greatest importance that all nurses and mothers be instructed that children deprived of the natural food should be given fruit or vegetable elements

as a prophylactic of scurvy. After the prepared foods have been given until a child is four months old, a spoonful of grape-juice added to the bottle once a day, bovinine—or, better, freshly prepared meat-juice—will counteract this tendency, never forgetting to give cold water to drink. The English add sieved mashed potatoes. I have used a spoonful of baked potatoes, sieved, in the bottle of milk once a day, for thin, scrawny children, and found prompt relief. In winter, when fruits are not always available, the following has been of great service: One potato, an onion, a turnip, all pared, put in two quarts of water, boiled until the potato falls apart; strain, salt, and add an ounce to the bottle each feeding. One well-developed case rapidly improved by use of ripe elderberry juice. Children who have teeth and are able to chew profit by use of celery or cabbage. The Old School depend wholly upon corrected diet and good nursing, but we are able to see health sooner and more permanently established by the administration of our well-indicated remedies. A study of each case will find a similar in one of the following: Carbo veg., ars. alb., calcarea carb., calc. phos., phos. acid, mercury, lil., agave Americana; and in one case, where the subperiosteal hæmorrhage of the femur was considerable, the continued use of arnica 6x was attended with the happiest result.

PHYSIOLOGICAL FEEDING OF CHILDREN.

BUSHROD W. JAMES, M.D., LL.D., PHILADELPHIA.

The general belief that the large mortality among infants in their first two years is due simply to enfeebled vitality or unhealthy atmospheric surroundings is probably an unfair proposition to set forth, if the physiological requirements for these little beings are looked into for these first years of their existence and carefully maintained.

The debated point as to whether a child should be given starchy food during its first year is quite well maintained by

prominent authorities that it should not, and these writers are supported in this view from the fact that a healthy mother, from the milk of the breast alone, can keep her child plump and healthy without the aid of gruels or farinaceous foods; but as soon as the teeth begin to make their appearance, nature evidently insists that not only a somewhat starchy form of food, but a more generous diet of animal food should enter the infantile system for assimilation.

From a physiological point of view, taking into account the size and weight of a child two years old, compared with the size and weight of a new-born infant, it is an evidence, without doubt, that more than the simple animal food, known as milk, is required for this growth, so that no rule can be exactly formulated that would become similarly operative in every temperament.

Milks, likewise, have a different proportion of constituents, and yet the average mother may have the proper amount of these ingredients in her milk for the nourishment of her infant for the first nine, twelve or fifteen months of its existence.

These articles are usually given in too great a quantity at the beginning and in too short a time, and the breaking off of one form of food and the substitution of another with somewhat different constituents is made so quickly, as a rule, that the digestive organs of the infant refuse to do their work with quietness and regularity. The stomach and bowels being once thrown into disorder, especially in hot weather, rapid wasting and dangerous complications usually set in, and before the practitioner, who may be ignorant of the proper physiological form of food for the infant, under such circumstances, is aware, serious derangement of the digestive and assimilative functions has set in, and the infant is on the verge of death while the practitioner looks on in amazement that his ill-fed patient is fading away under his very eyes, and in many cases he seems unaware of the method of restoring tone and regularity to the injured infantile organs.

My suggestion just here is to study these physiological requirements for each case and select the proper nutriment which any one of these diseases of children may call for when a derangement has happened to the digestive functions.

The mother is not to blame because she has not studied physiology or scientific feeding. But such should not be the case with the medical attendant, who should know the proper article and the proper proportion of the same to be administered to the child in the way of diet, under these circumstances.

If he has not studied physiology in his college days he should immediately stop the practice of medicine until he has gained sufficient practical knowledge of this subject to enable him to judiciously and professionally administer the proper form of food, which is far more important than medicine to many an afflicted infant.

The administration of farinaceous food should begin with a minute quantity and be gradually, from week to week, increased, and sometimes, in conjunction with the milk diet, be fed with the other ingredients which the system is at the time calling for, and this form of feeding should be gradually increased and kept up until the required equilibrium be attained.

So many good infant-foods are now in the market that it would be unjust to here name one above another. They must be studied individually with regard to their constituents, and be administered in such proportion and in such form as will not injure the delicate digestive powers, and yet give them additional work until the object of correct nutrition of the enfeebled infant has been obtained.

The more recent views on infantile dietetics may be summed up as follows: Biedert holds that the antisepsis of the alimentary track mainly depends on digestion and absorption of the contents of the bowels, and that there is no antagonism between the chemico-physical principles in the feeding of infants and the bacteriological conditions.

He states that undigested cow-casein is good material for the propagation of micro-organisms.

He believes in intestinal irrigation when the digestion is out of order, and says that children, fed at the breast, while thriving well, have their diarrhœal stools with mucus, which is not the case with those fed on cow's milk. He believes in boiling and subsequent cooling of the milk fed to children, and thinks that cream added to the milk increases its nutrition.

The casein of cow's milk differs from that of the human in chemical components. Dr. Crozier Griffiths considers cow's milk the best substitute for human milk, and recommends the following mixture for infants, a quantity sufficient for the twenty-four hours to be prepared and sterilized, the modified sterilizing temperature being maintained from about 170° to 194° F.: Milk, one ounce (30 grammes); cream (skimmed, 16 per cent. fat) two ounces (60 grammes), or cream (centrifugal, 20 per cent. fat) one and one-half ounces (46 grammes); soda bicarbonate solution, one-half ounce (16 grammes); milk sugar, three and three-eighths drachms (13 grammes); water to make eight ounces (250 grammes).

Enough of this mixture to last twenty-four hours should be made in the morning, placed in bottles according to the age of the child, and the bottles placed in the sterilizer and heated to the desired temperature. Modified sterilizing is preferable to pasteurizing, and is effected by keeping it at a temperature of 80° to 90° C. (176° to 194° F.) forty-five minutes.

If predigestion is to be combined with sterilizing the following method is recommended: Water, eight ounces (250 grammes); one-half of a peptonizing tube or one peptonizing tablet; dissolve and add milk, eight ounces (250 grammes); peptonize, then use peptonized milk, two ounces (60 grammes); cream, one and a half to two ounces (46 to 60 grammes); milk sugar, three and three-eighths drachms (13 grammes); water, to make eight ounces (250 grammes); sterilize as described above.

Gartner suggests cow's cream, diluted in an equal quantity of water and separated by a centrifugal separator.

This is analogous to human milk, except that there is not a sufficient amount of sugar of milk in it.

Ward holds that all foods containing starch should be avoided for the first twelve months, and where constipation is found in the infant it is frequently due to an insufficiency of fat in the milk. He believes in proper diet for the mother who supplies the milk, and refers to Platt's article in which he lays down the following formula for daily nutrition:

Eggs, four ounces (125 grammes); bread, twenty-four ounces

(750 grammes); butter, two ounces (60 grammes); beef, two ounces (60 grammes); milk, thirty-two ounces (1000 grammes).

We have, on the contrary, Heubner asserting by experiment the fact of finding ptyalin in a child of one day old, and in older infants of several weeks he found also a sufficient amount of digestive matter to change quite an amount of starch.

He thinks, however, that not more than 7 per cent. of starch should be used in infantile food.

Abel Johannesan in twenty-five nursing women observed an average of 1 per cent. of albumin, fat 3.21, sugar 4.67, specific gravity, 2.1035–1036; and, as the feeding was maintained, the albumin diminished, the sugar increased, and the fat, which was at first less in quantity, was increased by the end of the year.

Primipara milk was somewhat richer than multipara. He also claims that blondes produce milk richer in fat and sugar with less albumin than brunettes. A starch diet produced less sugar and albumin and more fat than where the mother was fed on mixed diet; and when the proteids and fats were increased in the mother there was likewise more albumin and fat found in the milk.

He relates two peculiar cases, one in which the percentage of fat in the right breast was 2.29 and the left realized 6.29. Another yielded in the right breast 5.5 and in the left 2.4 per cent.

DISCUSSION.

Dr. Pemberton Dudley: I am very much interested in everything that pertains to the nutrition of childhood life, and of course I am interested in this paper.

As regards the manner of changing diet, I think that we do not study the whole subject as we should; we rather limit our studies to the question of unaided dietetic treatment. We all know that the old physiologists (and some of the younger ones) said that as soon as you take a child from the breast of its mother and depend on artificial feeding, you will immediately assume the necessity for a frequent change in the diet. A child can live on milk and milk alone for months and months and

retain its health, but not many children can live for months and months on one article of diet. It must be changed, and you know well enough that it is in line with what we are taught in reference to the necessity of changing food even in the lower animals. We are told that if you feed a donkey on wheat grains alone he will die inside of a month, as he ought to. We also know that a child fed for a long time on any one food in which starch predominates, especially a child under seven months, begins to show signs of malnutrition. I once had a child in my practice starve to death on corn-starch.

Now, I want to suggest this one thing about the milk diet, that there are some babies with whom a milk diet—I do not care how you prepare it—will not agree. I have a case under treatment now in which I have tried every form of milk from that of the mother down to that of good condensed milk, of all the brands the mother could get, "malted milk," arrow-root prepared in milk, Mellin's Food prepared in milk, and a dozen other foods; but as soon as you change to milk the child suffers, and when you withdraw it the child is free. I have, therefore, instructed her not to give the child any milk in any form, and the child is getting better. Very frequently you can control the whole matter without depending on the change of diet by the administration of a homœopathic remedy, and in the selection of that remedy I want to call attention to one mistake. I had a child with whom a certain article of food did not agree and caused a train of symptoms that are misleading, if you allow them to be central in your mind in selecting a remedy. The administration of milk caused diarrhœa, pain, sleeplessness, restlessness and irritability, and so long as I allowed the symptoms to guide me very much in the selection of my remedy I failed; but when I put them aside, and saw the baby's pallor, noticed the perspiration on the head and found it was cutting its teeth, and gave it calcarea carbonica, there was a wonderful change for the better. Look out for symptoms back of intestinal and digestive irritation. They are produced by daily poisons the child is getting; they are not a part of the disease; they are a toxic condition superimposed upon a constitutional condition. Then you will succeed far better.

DIARRHŒA AND INDIGESTION IN CHILDREN.

WM. A. SEIBERT, M.D., EASTON.

THE keynote of success in the treatment of diarrhœa and indigestion in children lies unquestionably in a comprehension of the causes at work. A removal of the cause will almost invariably be followed by immediate recovery. Add to this the help of the remedy indicated by the symptoms of irritation, and the combination for overwhelming the disorders becomes irresistible and the delight of the homœopathic physician.

Bacteriologists are busying themselves in the careful study of the various forms of bacteria in diarrhœa as well as in other diseases. They have singled out three varieties in the summer diarrhœas, and have named the most common one bacterium coli. They have learned that the ammoniacal products of these cause inflammatory disturbances, which in turn bring about degeneration of the mucous membrane of the bowels and allow the germs to enter the blood and lymphatics, and through these the other viscera. They are carefully studying the virulence of these bacteria. This knowledge is not to be despised, and bacteriologists are to be encouraged in their untiring devotion to science.

It is necessary to heed their warnings that the increased virulence of the germs do cause inflammation and disease; but it is not necessary to agree that these bacteria are the primal pathogenetic agents, and that they are not concomitants or even scavenging in nature. They are proved to be common residents of the healthy intestines, and that their virulence is always dependent on other causes and conditions. It is right here that the homœopathic practitioner comes nearer to a comprehension of the subject than "his friend, the enemy." The "*condition*" referred to is that incomprehensible something that is so beautifully impressed by the proper remedy and turned toward the normal.

However, the treating very briefly with the "*causes*" is the burden of this paper. And the most potent means of combating them at our command, after prophylaxis, consists undoubtedly in the proper application of sterile water both by mouth and rectum—a measure so commonplace that we believe it is frequently undervalued. It should be thought of even though there is not an excessive diarrhœa; hypothermia, exhaustion or collapse are each equally good indications.

It dilutes the irritating contents of the bowels and removes promptly whatever may be poisonous. When given by the mouth it is best given every hour or half-hour in small quantities and to the exclusion of all other food, for even an entire day. Given per rectum in copious irrigations and repeatedly has produced marvellous results, probably because of its removal of the fermenting material, but also because of its effect on existing hyperexia on the one hand, and again because it with equal promptness raises a menacing subnormal temperature to the normal.

The liquid employed by the mouth is best boiled and cooled to the proper temperature. The water used for irrigation should also be carefully sterilized and a small quantity (ʒi to a quart) of salt added. It should be used at a temperature of about 102°, and can be applied to all morbid states of the bowels very easily by an irrigating tube, œsophageal tube, or a soft rubber catheter of large calibre attached to the syringe. Plain water or starch water to the amount of a quart, or even a gallon, should be introduced carefully but unhesitatingly until the return water is clear. At a fall of only eight inches the fluid may be expected to reach even into the small intestines in three-fourths of all cases under a year. Moreover, the advisability of intestinal feeding is suggested and should not be overlooked.

On a plane with the prompt removal of every source of internal irritation in the treatment of diarrhœa and indigestion is, of course, the prophylactic supervision of the food. Without desiring to open up the vast subject of infant feeding in this paper, the intermediate step between the regimen of water and the child's customary diet is essential to final success. After a day of "starvation"—that greatest monster of the indulgent

parents' dreams—the patient should be supported on toast-water, made by pouring on stale bread, well toasted on both sides, boiling water sufficient to cover it and adding a pinch of salt, allowing it to cool, and pouring it off. Equally efficacious are albumen-water, barley or rice-water. These should be employed exclusively for at least three days, in severe cases. The albumen-water consists of the whites of eggs added to ice-water by stirring, not beating, and with a pinch of salt added, or sugar of milk, if necessary, to compromise. The barley-water is made by boiling a tablespoonful of washed pearl barley in a saucepan with a pint of water, boiling slowly down to $\frac{2}{3}$ of a pint, and straining. These drinks should be given cold, and two or three tablespoonfuls can be given every hour or two for several days, when necessary.

On returning to the patient's former habits and food, we wish, in conclusion, merely to draw attention to the experience that zealous parents and conscientious advisers are good to a fault, and too often rickets is invited and indigestion is engrafted on many an innocent whose objections to carefully sterilized food is ignored *in toto.*

REPORT OF THE SECTION OF SURGERY.

Traumatic Hæmorrhage of the Middle Meningeal Artery, by S. M. Rinehart, M.D.
Seminal Vesiculitis, by L. T. Ashcraft, M.D.
A Plea for the Application of Better Surgical Principles to the Treatment of Fractures, by G. M. Christine, M.D.
The Treatment of Leg Ulcers, by J. W. Hassler, M.D.
Punctured Wound of the Common Carotid Artery, by H. L. Northrop, M.D.
The Treatment of Rectal Diseases, by W. G. Steele, M.D.
The Surgical Treatment of Tuberculous Lymphadenitis, by Walter Strong, M.D.
Three Cases of Bladder Tumors, by W. B. Van Lennep, M.D.
Head Injuries, by Carl V. Vischer, M.D.
Sodium Bicarbonate Solution as a Surgical Dressing, by B. K. Wilbur, M.D.

TRAUMATIC HÆMORRHAGE OF THE MIDDLE MENINGEAL ARTERY—A CASE UNACCOMPANIED BY FRACTURE OF THE SKULL.

S. M. RINEHART, M.D., ALLEGHENY.

In presenting the following to the members of this Society I have nothing new to offer them, and no series of cases of my own from which to draw conclusions. In my surgical experience I have had only one case of the kind. Most of my knowledge of the subject comes from text-books, and in my preliminary remarks I shall have to quote a good deal without taking the time to give entire credit where it is due.

Hæmorrhage of the middle meningeal artery following accidents is not a rare occurrence. Park in his *Systematic Surgery* says that of all extravasations of blood that occur between dura and bone, those from this vessel constitute not only the numerical majority but the only ones of serious significance. Nor is it difficult to detect and locate, if there is a corresponding fracture of the skull. But without the accompanying fracture the difficulty is much greater. The course of the middle meningeal artery is by no means constant. It is usually ac-

companied by two veins through the foramen spinosum, about 1 cm. above which it usually divides into two principal branches, the anterior and posterior. This point of subdivision, however, in about 8 per cent. of cases is as high as 3½ to 5 cm. above the foramen. The anterior directs its course toward the anterior and lower angle of the temporal bone, the posterior running almost directly backward along the parietal bone. The vessel may be ruptured in either of its branches, but the anterior is the most frequently injured—why, I don't know. A rupture may occur by direct blow, or by *contre-coup*. A blow may produce the injury either by fracturing the skull—one or both tables—or, more rarely, by causing a sudden alteration in the shape of the skull, which may stretch and tear the vessel without fracturing the skull at all. In the former case, of course, the vessel is usually cut through by the sharp edges or by splinters of the fractured bone. A blow upon one temple may injure the artery on the other side or upon the same side. Even when the fracture is upon one side, *contre-coup*, the broken artery may be upon the other side. This can only be determined by first deciding as to the probability of a hæmorrhage and then eliminating the most probable location. The amount of extravasated blood varies greatly. Two hundred and forty grains of blood-clot have been recorded, and the dura has been found separated through the entire course of the artery in both its branches down to the cerebellum. The extravasation may be rapid and quickly fatal or delayed for some time, the symptoms varying in degree and progress with the extent of the hæmorrhage.

These symptoms, upon which we have to depend for diagnosis, are not always clearly defined and conclusive, unless they are nearly all manifest in the same case, which is an unusual occurrence. As quoted by Starr from Jacobson, they consist of:

(*a*) Interval of lucidity or consciousness after injury.

This is perhaps the most important symptom in diagnosis. Usually, after the injury, unless the hæmorrhage is very rapid or the concussion severe and lasts for a long time, there is a period of lucidity, followed gradually by stupor or coma. Patients have gone to sleep in the former condition and passed into

the latter without waking. A working man, one of Park's cases, fell upon the sidewalk while returning from work, striking upon the back of his head, was stunned for a moment, then helped himself up and walked two miles to his home. Not until next day did any untoward symptoms manifest themselves. Then he began to be restless and wandering in speech, and successively apathetic, dull, stupid and comatose.

This man upon the fourth day was trephined about 6 cm. above the left ear, and an immense extradural clot found, extending backward so far that it was necessary to make a second skull-opening in the occipital region. A teacupful of clot was removed after some effort, and the patient made an uneventful recovery in a month. This was an unusual case on account of the slowness of the symptoms, and the apparent lightness of the blow compared with the extent and amount of the hæmorrhage. The lucid interval, however, is by no means always present, even with less extensive hæmorrhages, and the surgeon has often nothing to guide him but the other symptoms, which are more vague and inconclusive.—That is, of course, providing the bone itself has not been fractured. The other symptoms are:

(*b*) Hemiplegia occurs on the side opposite to the injury, the face, arm and leg being usually affected, but the leg less frequently than the arm, and never alone, which is impossible from the position of the leg centres. This symptom is important if detected, but in many cases either is not recognized, owing to the unconscious condition of the patient, or is absent, owing to the position of the clot.

(*c*) Aphasia may or may not be present, owing to position of the clot. If present, it is strongly conclusive.

The other symptoms, while not so important from a diagnostic point of view, are often the only ones present to guide one in deciding whether and where to operate. These are the ordinary symptoms of brain pressure. There are some cases of brain hæmorrhage which have only the general signs of compression, but in which there are none of the local symptoms, such as those just enumerated. The general symptoms of compression are:

(*d*) A hard, slow pulse. Toward the end of life it becomes very rapid.

(*e*) Slow, embarrassed, often stertorous breathing.

(*f*) Hemiplegia, if present, but often absent.

(*g*) Condition of pupils. Dilated pupils point to cerebral pressure, and the pupil on the side of the pressure is large and frequently irresponsive to light.

The diagnosis of this condition is very difficult if only the symptoms of compression are present, and there is no scalp wound or fracture. And especially is the location hard to determine. If there are no signs localizing the lesion it is best to wait a week, if necessary, before operating, in the hope that some definite symptoms may appear.

Of the operative measures I need not speak in general terms. The principal difficulty consists in diagnosing the condition and then in locating the lesion. After that, the operation is usually simply one of trephining and removing the clot.

And now, to come from a general consideration of the subject to the specific case that brought it particularly to my attention. In September of last year a young man was brought to the hospital by the patrol-wagon, with a history of having fallen from a buggy and struck upon his head on a fire-plug. As we learned afterwards, his horse ran away at the top of a hill and dashed down the winding road, the man trying to control him the while, until near the bottom he swerved, overturning the buggy and throwing the occupant against a fire-plug, which he struck with his head. The patient's condition was as follows: External marks, none, except a contused area in region of right temple, at or very slightly above the level of the upper margin of the ear; pupils slightly contracted; patient unconscious, but able to be roused enough to resist efforts of attendants; very restless; vomited shortly after admission; no impairment of movements of limbs; breathing heavy, but not stertorous. The symptoms at this time were those only of shock and concussion. During the night he was very restless, but seemed to sleep naturally at intervals for half an hour at a time. The nurse's record says that he complained of his head hurting him in frontal region, and that "he asked for a pillow

to put under his head." At this time he was evidently coming out of the condition of shock and the effects of concussion. In the morning, when I saw him, he had lapsed into an unconscious state again. The pupils were now dilated, and there was evidence of cerebral compression, the location of which was in doubt. But the gradual lapse into unconsciousness after a period of partial mental activity, and the location of the external mark of contusion, gave reason to believe that there might be either a fracture of the skull, causing compression upon the surface of the brain at that point, or more likely a hæmorrhage of the middle meningeal artery at that place, either with or without a fracture. It was decided to trephine. I made a large U-shaped flap in the usual manner, beginning below and forward quite beyond the margin of the hair, and taking in the whole temporal region. There was no evidence of fracture throughout the whole exposed area. At the site of the contusion the periosteum was lifted and a button of bone about one inch in diameter removed by the trephine. Upon its removal there welled up from the opening a great quantity of bright red blood, which came from between the dura and the skull. The button of bone removed was smooth, and gave no evidence of fracture of the inner table. As quickly as possible the opening was enlarged in the direction from which the blood came, but so profuse was the hæmorrhage that efforts had to be made at once to check it. The dura was carefully incised. Beneath it was a large clot, pressing up on the surface of the brain, which, upon removal, left quite a good-sized cavity, from which bright red blood gushed in such quantity that the patient was in immediate danger of becoming exsanguinated, so that further efforts to enlarge the bony opening to discover the rupture in the artery were stopped and the cavity beneath the dura was packed with gauze. This compressed the vessel between the packing and the bone and gradually brought the bleeding under control. The scalp-flap was then replaced and dressings applied, leaving necessary drainage. Following the operation, the patient's symptoms were of about the same character as before; that is, symptoms of cerebral compression, probably slightly aggravated by the pressure of the gauze pack-

ing. Once during the night he roused enough to get out of bed to urinate during the absence of his attendant. Upon the following day he was removed to the operating-room, and an attempt begun to remove the gauze which filled the wound; but this was desisted, because of a fear of renewing the hæmorrhage, and he was returned to his room. During this second night his symptoms were more marked. The stupor was greater, the muscles of the face twitched spasmodically, swallowing became difficult, and the pupils were widely dilated, especially the right. Upon the third day the flap was again lifted and the gauze carefully removed. This did not renew the bleeding. The bone was quickly cut away anteriorly, and the broken anterior middle meningeal ligated. Then all clots were washed away with salt solution, and the wound stitched and dressed in the usual manner.

The subsequent history of the wound was one of almost complete union by first intention, in spite of its having been opened thrice on succeeding days. The patient's mental symptoms, however, were more important, as they did not clear up rapidly. For two days he hovered between life and death. There were the same restless tossing, the intervals of complete stupor, the irregularly dilated pupils, though this symptom was not so marked, that characterized his previous condition. Upon the third day after the final operation there was marked improvement. The temperature, which before this operation had been as high as 101°, was at no time on this day above 99.2°, and thereafter became and remained normal. He took his nourishment well, slept quietly at intervals, and his intelligence seemed to awaken to activity. But speech, which from the night of his admission had been dormant, was still slumbering. From this time improvement in all mental faculties was steady and progressive, and need not be particularized. On the fourth day after the final operation, or the seventh after admission, he distinctly uttered speech twice. Once, and I believe first, he said: "Ah, mamma!" and again, after finishing a cup of milk: "All gone!" After this the aphasic symptoms gradually cleared up, and upon the ninth day he discovered himself, began to learn the names of objects, and to take up the activities of an intelligent consciousness.

The principal points to be emphasized in this paper are:

1. The comparative rarity of a hæmorrhage from this artery without a corresponding fracture of the skull, and the principal diagnostic symptoms enumerated above, especially the interval of consciousness, the irregular pupils, the hemiplegia and the aphasia.

2. The difficulty of localizing the hæmorrhage, which may be anywhere in the whole course of either branch of the artery. Dr. Roswell Park claims to have been the first to operate on this condition, according to the principles of cerebral localization, in 1886.

3. And this concerns my particular case: The aphasia was one of the most marked symptoms. Not a sound did our man utter, after the symptoms of compression became manifest, until the seventh day after admission. I did not mention it above, but I want to call your attention here to this fact—he was and is a right-handed man. We are told and believe that in such the aphasic area is on the left side. This hæmorrhage that we have been describing, with its clot formation and consequent brain compression, were on the right side, and were, as far as can be judged, entirely cleared away by operation. The aphasia did not begin to disappear until the fourth day thereafter. Now, was there also a left-sided hæmorrhage by *contre-coup?*

DISCUSSION.

Dr. W. B. Van Lennep: I want, in the first place, to express my sympathy to Dr. Rinehart. I have been through many an anxious hour with such cases. These cases of extradural hæmorrhage of the middle meningeal artery are probably the most satisfactory that we can trephine; those which are complicated by sub-dural hæmorrhage and also by more or less extensive laceration of the brain substance are probably the most troublesome.

The question of recovering certain lost functions is a very interesting one. While I do not just now remember an exactly similar, I recall one of loss of vision—fracture of the optic foramen and probably laceration—as our opthalmologist found by examination of the cavity of the eye—of the optic nerve. The

man fell from a height, striking the right side of the head, and lost the sight of the corresponding eye, while the other eye, unfortunately, was a glass one. Three weeks afterwards he was suddenly able to see the attending physician. I hardly knew how to account for that.

The question of hæmorrhage on the other side is a very interesting one, and I must say that I am rather inclined to think that while we should regard the case as showing the possibility of the speech-centre being on the right side in right-handed people, the probabilities are that there was a hæmorrhage on the left side, but by removing a button of bone and relieving the intra-cranial tension, the man recovered his speech.

I want to say something in conclusion concerning the rules that I follow and am perfectly wedded to in connection with head injuries: Every fracture that you can make out, *i.e.*, see or feel, should be trephined, and every case where there is derangement of intellect, of motion, of sensation or special sense, should be trephined or explored, either being guided by the local signs of injury, *i.e.*, bruise or wound, or by localizing brain symptoms.

We should not stand by and let a patient go on with any disturbance of brain function or a fracture, without interfering surgically. In this way we will be able to stamp out our cases of traumatic imbecility, insanity and epilepsy, and all the troublesome train of symptoms that follow in the wake of these head injuries.

Dr. G. M. Christine: May we not go a little farther than Dr. Van Lennep, and in all cases of head injuries, where there is a hæmatoma or a bruise, endeavor to get the patient's consent to cut down, and even if we find any apparent injury there we might also trephine; that is, not wait for symptoms, for they may be weeks or months in appearing, and then we will regret that we did not cut down on the mere ordinary bruise.

Dr. C. P. Seip: It seems to me that this matter of head surgery has now advanced to that position in the profession where those in practice for the last part of the century can look back to cases that, had it not been for our want of courage, the patients to-day might have been around. A short time ago we

received a patient here who had a severe injury to the scalp, with a slight depression; we decided to trephine, and found that the inner table of the skull had been driven fully one inch into the substance of the brain. That man presented no symptoms whatever, except unconsciousness—no serious disturbance of the brain—and he made a complete recovery.

SEMINAL VESICULITIS.

L. T. ASHCRAFT, M.D., PHILADELPHIA.

Disease of the seminal vesicles may arise from gonorrhœa, tuberculosis, and simple, non-specific inflammation. The majority of cases may be attributed either directly or indirectly to gonorrhœa. Because of this fact, my remarks will be directed chiefly to that type.

Seminal vesiculitis has received very little notice from American writers, Fuller, Taylor and Thorndike constituting the notable exceptions. The seminal vesicles are two lobulated, membranous pouches situated at the base of the bladder and in front of the rectum. They are separated from the latter organ by the recto-vesical fascia. Each vesicle measures about two inches in length, three-fourths of an inch in breadth, and about one-half of an inch in thickness. They lie imbedded in the filaments which branch off from the fibrous bands, extending from the posterior surface of the prostate to the walls of the bladder. Although separated at their upper surface, they converge towards the base of the prostate, and end in a duct which joins the corresponding vas deferens at an angle, forming the ejaculatory duct. These ejaculatory ducts enter the prostate at its base, pass through it, and enter the prostatic urethra either on the sides of the sinus pocularis or within this cavity. In some instances the peritonæum is reflected over the upper surface of each vesicle. Each pouch consists of a main cavity, with various-sized diverticula; all are joined by fibrous tissue. They have an external covering, which is fibro-cellular,

a middle muscular coat and a lining mucous membrane; columnar and cuboidal epithelium line the vesicles. The vas deferens runs along their inner margin. The middle and inferior vesicle and middle hemorrhoidal trunks furnish their arterial and venous supply. Their nerves are obtained from the pelvic plexus.

The seminal vesicles furnish a storehouse for the semen, preserving its vitality by furnishing a secretion obtained from their epithelial lining, and retaining it until called upon to expel it.

Gonorrhœa causes tissue changes not only in the vesicle walls, but also occasionally in the spaces between and about them, producing a peri-vesiculitis. Both vesicles are usually attacked, causing alterations in their chambers, their secretions, as well as their contents. The ejaculatory ducts are usually involved, and in some instances the prostate participates in the morbid process. Fuller apparently ignores prostatic inflammation as a complication. That he is in error is readily seen by recalling how intimately the prostate and vesicles are connected through the agency of the ejaculatory ducts. Acute gonorrhœal seminal vesiculitis causes swelling of the mucous membrane and small-cell thickening in the submucous connective tissue. The vesicles may be dilated or become atrophied by contraction of the newly-formed tissue. Their contents undergo a puriform degeneration. Microscopical examination shows dead spermatozoa. Chronic seminal vesiculitis commences insidiously. Symptoms are rarely complained of until months after an attack of gonorrhœa. The process consists of an inflammation of the mucous membrane, with degeneration of the epithelium and subsequent catarrh. Later, this infiltrate extends into the entire substance of the vesicles, producing marked thickening in their walls, thus impairing their function. The semen is markedly affected, becoming semi-purulent and sometimes bloody, and frequently losing its normal consistency. Microscopical examination of the expressed secretion of the vesicles will show phosphates, mucus, synopexions (small particles resembling starch granules), and apparently dead spermatozoa. Occasionally pus, gonococci, tubercle

bacilli and bacteria may be seen. The changes in the urine are characteristic. The first portion voided will be clear, except where gleet exists. The residue will be cloudy, particularly if pains be taken to express the vesicular contents. Chronic inflammation of the ejaculatory ducts may result in an atonic condition, which, associated with the changes just enumerated, will interfere with the ejaculatory act.

Acute seminal vesiculitis presents marked inflammatory symptoms. Pain is an annoying feature; it is usually referred either to the supra-pubic region or to the sacrum and rectum, and in those cases which are complicated by epididymitis pains may extend from the perinæum and scrotum to the inner aspect of the thighs. The temperature rises to about 103° F. The bowels become confined and the tongue is heavily furred. The urethral discharge is suppressed, remaining so until vesicular resolution occurs. Bloody pollutions, caused by capillary hæmorrhage, may occasion alarm. The urinary changes are quite characteristic in the beginning of an attack, differing but little from the urine as seen in acute gonorrhœa, except that urination may be more frequent. Later on, when resolution is established and the vesicles empty their contents, it becomes decidedly clouded. The disease arises by extension from the posterior urethra, and may usually be traced to imperfect instrumentation, particularly while practicing urethral irrigation. Fortunately, most cases end in resolution, although exceptionally an abscess forms, which bursts into the peritonæum or the rectum. Many of these symptoms may accompany posterior urethritis and acute prostatitis. Any doubt as to the precise nature of the case will be dispelled by making a thorough rectal examination. The examining finger will usually detect two swollen bodies situated somewhat above the prostate. The symptoms present in the chronic type point directly to interference with the sexual function. In mild cases sexual erethism is an annoying feature, while feeble erection and lost desire are present in advanced subjects. Coitus, if practiced, lacks pleasure, the ejaculatory act being precipitate or tardy, and sometimes very painful.

Seminal losses constitute a very annoying and persistent feat-

ure. Nightly pollutions are frequent, occurring even after sexual indulgence. The normal color of the semen is changed to a brown or dull red shade. This is frequently observed in those cases which are complicated by tuberculosis. An intermittent urethral discharge may accompany seminal vesiculitis, and although it is a popular professional belief, which I share, that almost all chronic urethral discharges may be attributed to a stricture of large calibre,* nevertheless my experience accords with others who have cured chronic urethritis by directing their treatment entirely to the seminal vesicles. Neurotic symptoms, both local and reflex, are quite pronounced; some complain of burning in certain urethral areas; others of coldness and numbness of the sexual organs. Slowly other reflexes become involved; the stomach and the brain are functionally affected, dyspepsia, impaired appetite, dimness of vision, headache and ringing in the ears are pronounced symptoms. As the condition progresses they become despondent, avoid society, and sink into a markedly neurasthenic state. This will be appreciated by recognizing how lost tone in a certain part of the sympathetic system produces a similar condition in other parts.

It must not be understood that these symptoms are present in every case, different grades being encountered; indeed, the disease may exist without causing reflex symptoms; and, too, in neurotic individuals the suggestion of sexual disorders may provoke a wealth of complaints. The local-tissue changes can only be ascertained by making a rectal examination. The proper technique as suggested by Fuller† is as follows: "The patient presenting himself with a full bladder should, while standing with his knees straight, bend the body forward at right angles; then the operator should introduce the forefinger of one hand well into the rectum, with the fist of the other hand exercising firm counter-pressure over the pubes." By these means the body of the vesicles may be felt; their contents may be expressed by firm pressure along the line of the vesicle. Occasionally the examination is attended with diffi-

* *Diagnosis and Treatment of Urethral Stricture of Large Calibre*, by Leon T. Ashcraft, A.M., M.D., Hahnemannian Monthly, March, 1898.

† Fuller: *Disorders of the Male Sexual Organs.*

culty, particularly in men who have a protuberant abdomen and rigid perinæum. The normal vesicles should impart a sensation of elasticity; when diseased they are firm, hard and distended; the spaces between them may be swollen, or because of lost tone the vesicular walls may be relaxed. Pressure upon inflamed vesicles causes a sharp, sickening pain, and a flow of pus from the urethra. No rectal examination is completed unless the condition of the prostate has been noted. Frequently pressure on this organ is accompanied by a sharp pain in the region of the ejaculatory duct.

Chronic gonorrhœal seminal vesiculitis must be distinguished from chronic inflammation of the bladder, the prostate and the posterior urethra, and occasionally from urethral stricture of large calibre. Changes in the bladder and prostate produce symptoms directly associated with the urinary act. Chronic posterior urethritis may present the sexual symptoms observed in vesiculitis, but if present they are usually less conspicuous. Doubt may be set aside by making rectal exploration. Reference has been previously made to chronic vesiculitis, suggesting urethral stricture of large calibre. Finally, an inherited weakness of the sexual apparatus should not be mistaken for vesiculitis, nor should failure to perform coitus satisfactorily be attributed to these organs. It must be remembered that we occasionally meet with a psychical type of impotency.

Before discussing the treatment, perhaps it would be wise to mention how seminal vesiculitis may be prevented. It has been shown that most cases arise by extension from the posterior urethra. Faulty technique, while practicing urethral irrigation, is largely responsible for posterior urethritis. Therefore, care should be exercised in diagnosing the location of urethral discharge. If it be confined to the anterior urethra, treatment should be directed solely to that region, and under no circumstances should vesical irrigation be practiced. Should a severe posterior urethritis complicate anterior inflammation, all local treatment must be interdicted until active symptoms subside.

During an acute attack, the patient should lie in bed and not be permitted to leave it until the inflammatory symptoms have subsided. He should lie preferably upon his back, and the

scrotum should be firmly supported by a proper bandage. Constipation may be avoided by prescribing a mild laxative; the diet should be light and nourishing. Medicinally the best results are obtained from aconite, belladonna, pulsatilla and cantharis. It may be necessary, in cases of severe pain, to insert a rectal suppository containing a quarter of a grain of morphia. Should these measures fail to promote resolution and a rise of temperature associated with pelvic distress suggest abscess formation, evacuation will be indicated. This may be accomplished by administering an anæsthetic, introducing a rectal speculum and evacuating their contents.

The treatment of the chronic type differs materially from that of the acute stage. It has been pointed out that the most prominent symptoms refer directly to interference with the ejaculatory act. The restoration of this function, then, is the object to be achieved. This may be accomplished by *stripping* or *milking* the seminal vesicles, a method popularized by Fuller. To accomplish this the patient should be placed in the position necessary for examining the vesicles; moderate pressure should then be exerted upon these sacs. This is followed by decidedly beneficial results, since it serves to restore tone not only to the vesicles but also to the surrounding tissues. During this treatment the pathological material is expressed from the seminal vesicles; severe pressure should be avoided, since, in gravely diseased conditions, hæmorrhage may result or an acute inflammation may be set up. Following this act, the urethra and bladder should be irrigated with a 1–2000 solution of permanganate of potash, thus freeing the urethra of the expressed contents of the vesicles, and possibly preventing bladder infection. This stripping process is in some instances followed by pain, both local and reflex. Subsequent treatments should not be repeated until after all inflammatory changes have disappeared; this takes about five days. The average period of time required to effect a cure may be placed at from five to six months; in some aggravated cases even longer. In pot-bellied individuals it is almost impossible to reach the seminal vesicles. In such cases I have obtained fair results from passing a full-sized rectal bougie. Where pronounced anæmia exists, it may be neces-

sary to combine medicinal with local treatment. I have found strychnia phos., one one-hundredth of a grain, and phosphorus beneficial. Where tuberculosis complicates the condition, relief may only be obtained by surgical means. It must be remembered that such a procedure is rarely demanded in the gonorrhœal type. The surgical measures proposed are incision and removal; the former has been discussed. Removal is accomplished by following the course suggested by Kraaske. It consists of an incision beginning near the posterior superior spine of the ilium on the left side and extending along the body of the sacrum. The coccyx is enucleated, and the corresponding sacral wing resected. Should it be necessary to remove both vesicles, a similar incision should be made in the opposite side. This exposes not only the vesicles, but also the prostate and the base of the bladder. Fortunately this operation is rarely demanded, mechanical means usually sufficing to produce a cure.

DISCUSSION.

Dr. F. W. Brierly: I think we should be very thankful to Dr. Ashcraft for bringing up this subject. I am sure that those men who treat genito-urinary cases find seminal vesiculitis one of the most difficult diseases. As a rule, patients become discouraged and go from doctor to doctor, and I think it is well to make it a point to tell the patient in the beginning that it will take a long time to cure him. That is the way the genito-urinary "specialists" do—a long time and a great deal of money. As an illustration of the trials we have to undergo with these patients, I remember one case who was in my hands, having been sent to me by a friend practitioner, who assured me that I could do anything for him if any person could. He stayed with me for three months, then I saw nothing of him for a couple of months, but he came back one evening and told me that I had done him no good, and that three bottles of Dr. ——'s combination, at so much per bottle, had done the work. This is perhaps a fair example of our cases of seminal vesiculitis. I have in my mind a few cases which I have cured, or which have gotten well under my treatment, and I always refer to them with pride.

A PLEA FOR THE APPLICATION OF BETTER SURGICAL PRINCIPLES, ETC.

G. M. CHRISTINE, M.D., PHILADELPHIA.

[During the reading of his paper Dr. Christine presented skiagraphs, showing injury to the elbow, and a specimen case of fracture of the humerus. He likewise showed tempered steel nails used in securing proper apposition of bones in fractures.]

One of the serious questions confronting the surgeon is the treatment of fractures of bones. In spite of the fact that the setting of fractured bones was quite an art in the earliest history of surgery, it would seem strange that at the present day this subject should be debatable. And yet we find the profession has not considered that our methods of treatment in fractures have reached their possible acme; for now and then a new method to secure fractured bone union is exploited, or an old and obsolete method is resurrected and advocated in its entirety or with modifications. I feel quite sure that no surgeon is satisfied that he has no need to improve upon his method of treatment of fractures. If he does, it fails of accord with the past history of the art, which seems to be ever seeking toward more perfect method and the securing of better results, which is a confession of imperfection. Nor need we be surprised nor especially chagrined that fracture treatment has not kept pace with other surgical advances when we consider the attendant difficulties.

The trouble with us is largely that we do so little independent thinking and acting. It appears to require an extraordinary amount of bravery on the part of a surgeon to depart from the classical methods in fracture treatment. Opinion has become set on the methods of the forefathers, and it is very difficult to convince some that it is possible to learn anything new in the treatment of fractures. We are strong in breaking out of the bounds in other surgical work, but in fractures we go in the track laid out for us by others as though it could never be improved upon, and no other existed. We are content to rest

on the old-time statement that certain fractures must inevitably result in loss or diminution of function, without stopping to think as to whether we ourselves cannot modify such results in favor of a better condition, or whether the time may not arrive when fractured bones may be treated with as much success in coaptation and primary healing as we get in a wound—as, for instance, the evanescent wound stitched by a subcuticular suture. Why should we demand perfect work in the treatment of a wound of the soft tissues and not expect it of a fractured bone, when the conditions are at least alike of no loss of structure, the absence of sepsis, intimate coaptation, etc.? The surgeon will open the peritoneal, cerebral and joint cavities with complacency and impunity, and will tell you that if nothing pathological is found there the wound can be closed with no ill-effect. The technique has so far improved that exploratory incision almost anywhere in the body can be made with practically a *nil* result, though yet even here our methods admit of improvement. Then why do we stand aghast at a fractured bone and tremble at fear of the result? We have simply permitted ourselves to be wedded to tradition. Many there are who regard fractures as necessarily productive of deformity, somewhat like the opinion held by the old surgeons who, when a wound discharged pus, gloried in the fact that healing was going on so beautifully. If a tendon ruptures or is severed we cut down and suture; if a finger-end is cut off we stitch it on again and hope for a cure; if for any other cause the gut is resected we rejoin the cut ends—all of which is done by direct contact with the part. But when a bone is broken, we are afraid to get down to it and apply our treatment direct. The reason partly resides in adherence to unsafe and often unsound traditional guides, but mostly in a lack of faith in our surgery. It is to strengthen this faith and to engender confidence in the means our art furnishes us, by pointing out a few of our errors, and indicating wherein we can safely and advantageously call to our aid those surgical principles which have just as much right of application to bone-fracture healing as to any other surgical condition, that this paper is written.

Suits against physicians for malpractice have been confined

almost solely to fracture cases, and while the courts have justly stood by the physician who conscientiously applied the means at hand to the treatment of the fracture, even though deformity result, the fact is based upon a principle held to be a good one by the laity, but not altogether by the profession, namely, that a bone fracture properly treated should result in an entire absence of deformity. The people expect perfect work; the surgeon denies that it can be secured in all cases, and even prepares the people to expect deformity or limitation of function by stating the probability of its occurrence. It is unfortunate that the conscientious surgeon is obliged to fortify himself against attack by a statement, the utterance of which is a confession of incompetence; but this confession is made even among ourselves, it is testified to in the courts, it justifies us in our poor work, and is the miserable excuse for our unsuccessful attempts. So long as our profession is hampered by the machinations of shyster lawyers, and so long as juries do occasionally mulct us in damages, it might be well for us to be wary; but here among ourselves let us seek to perfect our methods so that we shall have no occasion for an excuse which, respecting our other surgery, would in the light of our present highly-perfected art and skill, be regarded as absurd.

The old method of treating bone fractures in a sort of "sight unseen" manner, trusting largely to good fortune for a good result, will, I trust, be replaced by the common-sense method of cutting down to the fracture and acting according to the conditions there found—not that it should be done in all instances in which no doubt whatever exists as to accurate reposition of fragments and their certain retention in normal continuity, but always in those many doubtful cases of fracture in which uncertainty exists as to proper setting, or reduction, the maintenance of the desired union of the fragments and the immobilization of the parts.

Just as I am writing, the *Philadelphia Medical Journal* for September 24th is handed me, and I find from the pen of Dr. Roberts, of Philadelphia, a strong article on subcutaneous nailing, exploratory incision, and the extended elbow in condyloid fractures of the humerus, which I have read, before pro-

ceeding with this article, with so much interest that I must mention Dr. Roberts' salient points as being more forcible than any I could give you. They come from an original thinker and actor in fracture surgery, and I bid you give them careful consideration, because they so appealingly argue for a better surgery than that of the past or present. Dr. Roberts confines his remarks to the elbow, but they are applicable elsewhere in the body, and I believe even to the hip, that present almost forbidden locality in time of fracture. The paper of Dr. Roberts contends:

1. *That ankylosis of the elbow-joint after condyloid fractures is usually due to imperfect reduction of fragments or incomplete restitution of structural relations.*

In support of which he states that "the interference with mobility results largely from distinct alterations in shape of the articulating surfaces, due to incorrect coaptation," etc. He closes his argument on this point by remarking that "displaced bone causes ankylosis, and that incision at the time of the reception of the injury would probably have permitted restoration of bony contour and prompt recovery of functional activity."

2. *Conservation of the normal angle between the axes of the humerus and the ulna is desirable.*

He refers to the causes of "gunstock deformity" as due to fracture of one or both condyles of the humerus. I quote a sentence on this point: "It is an acknowledged duty of the surgeon to restore, after injuries, the anatomic symmetry, as well as the functional usefulness. Hence, no extended argument is necessary to prove that it is best to adopt that line of treatment which will attain both ends. *Retention* of the normal humero-ulnar angle of a broken elbow is, therefore, not only desirable for cosmetic reasons, but is demanded by anatomic and surgical considerations."

3. *Fixation is satisfactorily obtained by nailing the fragments together with long nails driven through the skin.*

On this point Dr. Roberts refers to the possibility not only of incomplete reduction of the fragments, but to imperfect fixation "which has allowed the properly readjusted fragments to slip again into abnormal relations." He quotes Stimson, who says that "the impossibility of direct control of the fragments, the contraction of muscles and the pressure of fascia combine to make the result largely a matter of chance. This opinion was confirmed, he states, by seeing and feeling in open fractures the difficulty caused by the shifting of the fragments."

Dr. Roberts then passes on to the relation of experiments performed showing that "fractures of the condyles of the humerus, made in the cadaver, can be satisfactorily fixed after reduction by driving wire-nails through the skin into the bone and across the lines of separation." Skiagraphs are given showing experimental fractures kept in position with wire-nails driven through the skin. Dr. Roberts had special fracture-nails made of "tempered steel with a drill-shaped point and a long, square head. These nails are driven into the bone, and are pulled out in two, three or four weeks." After the fixation by means of the "fracture-nails," an aseptic dressing is applied, which may or may not be supported by a splint of wood, metal, paper, or gypsum.

These nails will be easier of application in open fractures, and if sufficient information is not obtainable as to the position of the fragments by the X-ray, palpation, etc., exploratory incision is the safest course in severe injuries of obscure character.

Under a fifth point Dr. Roberts has this to say: "Aseptic incision of joints, being in competent hands practically free from risk to life, is demanded in a certain number of elbow-fractures, because the anatomic integrity of the joint and its functional usefulness are jeopardized by the surgeon's ignorance of the lesion and his consequent inability to repair the structural damage." "The patient with a bad fracture of the elbow has an intrinsic right to the benefit derivable from incision in competent aseptic hands." The rest of Dr. Roberts' article pertains to position of the arm, etc.

I refer so fully to this paper because it comes to hand at so opportune a time, when I needed a few strong sentences from an authority to support my contention that there are occasions when it is demanded of us to cut into the bone to be able to know what we are doing, and, finally, as to how well it has been accomplished. But, let me refer to another paper, namely, that of Dr. Allis, also of Philadelphia, on "Open Measures in the Treatment of So-called Simple and Compound Fractures," which appeared in the *Annals of Surgery* for June, 1897. I would like to quote extensively from this article, and limitation as to time only prevents. I cannot refrain, however, from reading to you a few sentences: "What is the condition in an injury to the leg with both bones broken, but the skin intact?" "Laceration of periosteum, deep and superficial fascia,

outpouring of blood between the fragments and muscles, displacement of bone fragments." . . . . "Open up the part with a free incision, carefully divide the deep fascia to the full extent of the seat of fracture, or, better, to the full extent of the external wound; then cleanse the wound of clots, ligate bleeding vessels, repair injured nerves, wire or directly mobilize the fragments, dress without suturing, and encase in plaster."

Dr. Allis does not advocate this method in all simple or closed fractures, but he urges that "very many so-called simple fractures are as grave as the more dreaded compound fractures, and cannot possibly be scientifically treated by any other than open measures." Dr. Allis then states that "whoever treats a fracture with unbroken skin must confess that he has treated it ignorantly." He refers to several cases of fracture ending in deformity, but subsequently examined by incision, in which the cause of deformity was found to have resided in "muscle interposed between the fragments, a condition that could not possibly be detected by palpation and manipulation at the time of setting the limb," though done under an anæsthetic.

I quote these authors to demonstrate the fact that surgeons are thinking, that they are beginning to diagnose their cases more carefully, and are putting into execution sound surgical principles which they have long known but have been ignoring in the treatment of bone fracture, or have been too timid to apply. I have met many instances of deformity which, in the light of the surgery I am advocating, were needless; and I, myself, must account to my conscience for errors of omission as well as commission in similar cases. I present a skiagraph I have taken of an ancient fracture which, if the method here advocated of cutting down to the seat of injury and by some mechanical means keeping the bones in apposition had been adopted, would not have resulted in the deformity shown. Let us have less fear of the result of this exploratory incision, and in each case of fracture concerning which we have doubt let us get a little closer to the surgical precept, "when in doubt, operate!" and our fracture surgery will take a great advance. If we have the surgical trend, and know how to do surgical work, we need have no fear of harm following the mere fact

of incision. Having reached the seat of fracture and reduced the fragments to their normal positions, of course freeing the parts of escaped blood, spicules of bone, etc., and having untangled interposed fascia, muscle, etc., our next duty is to fix the bones in place.

We should suture or bring together, by some mechanical means, the ends of a fractured bone, and I believe that this union should be as intimate as it is possible and practicable to make it.

The ingenuity of the mechanical surgeon has ever been taxed to determine the best way of doing this. Suture materials and clamps of all kinds, from catgut to silver wire, have been employed for this purpose. Nailing of the fragments together has been tried, and I have already quoted Roberts in this respect, though the idea is, of course, not new. Bones have been joined with ivory pegs, and attempts, sometimes successful, have been made to hold the ends of bone together by stitching the periosteum. Malgaigne's hooks and various screws are crude attempts to secure the close apposition of broken bones, their fixation in the normal position and relation, and a union *per primam intentionem*. I suggest here that Malgaigne's hooks are not such bad things as they are generally regarded.

It is an acknowledged fact that much of the infection in closed wounds comes from the sutures, starting as stitch abscesses. Effort has frequently been made to overcome this by doing without sutures, and many devices have been put forth to take their place. Thus far, I believe, none of them have been successful. The same strenuous effort has been manifested concerning sutures for bones. There is no form of suture or nail or screw that passes through the bone wound that is not considered objectionable. They are all foreign bodies, and are not easily tolerated by the tissues. Following out this idea, a bone-clamp has been devised by Dr. Clayton Parkhill, and referred to in an excellent illustrated article by him in the May number of the *Annals of Surgery* for this year. Dr. Parkhill says that "Modern surgical technique should now be sufficient to warrant a bolder method when necessary, and the securing of accurate and permanent fixation of the fragments." He

then describes a bone-clamp which he has used. "It consists of screws, curved wing-plates and clamps to hold them in place. Holes are drilled in the bones, the screws inserted, the wing-plates applied, and the clamps added and tightened." The instrument is described as "simple in construction, easy and accurate of adjustment, and when properly used secures absolute fixation of the fragments."*

This clamp has been used by Dr. Parkhill and others in such cases as pseudarthrosis of the humerus and of the femur, delayed union of bones of the leg, pseudarthrosis of both bones of the forearm, recent fracture of both bones of the leg with tendency to displacement, malunion of the femur, pseudarthrosis of the tibia, malunion of the humerus, fracture of the radius, and fracture of the patella, with great success. Dr. Parkhill claims for his clamp the following:

1. That union has been secured in every case in which it has been used, as against 50 per cent. of cures by all mechanical means, according to the statistics of Bruns and Gurlt.
2. That it is easily and accurately adjusted.
3. That it prevents both longitudinal and lateral motion between the fragments.
4. That the presence of the shafts in the bone stimulates the production of osseous tissue.
5. That nothing is left in the tissues that might reduce their vitality or lead to pain and infection.
6. That no secondary operation is necessary.

I would add a very important claim, namely, that the bones are brought together without any part of the mechanical device being in contact with the bone wound, the screws being put in at a distance from the break, and the wound of the soft tissues closed or left open, as may be desired or required.

The conclusions to which I would have your attention fastened are as follows:

1. If proper adjustment cannot be secured and maintained by the ordinary methods of splints, etc., the bone should be cut

* A set of these clamps, made for Dr. Christine by The Charles Lentz & Sons Surgical Co., was exhibited, and the *modus operandi* explained.

down upon, and effort made to secure this result by manipulation of the bone direct.

2. Mechanical devices are sometimes necessary with which to fix the bone fragments in proper coaptation and to maintain them in alignment.

3. All devices which come in contact with the bone-wound are obviously objectionable.

4. All mechanical devices requiring secondary operation to remove are likewise contraindicated. The Parkhill clamp is simply unscrewed.

5. Clamps, such as that of Parkhill, seem to fulfill the requirements in the many instances demanding a device of this kind.

6. Bone-surgery is amenable to the same laws as the surgery of other parts; hence we should be readier to cut down upon fractures than is now the case, observing, of course, the necessary aseptic technique.

DISCUSSION.

Dr. J. C. Burgher: I am very much pleased with Dr. Christine's paper as I understand it. I do not advocate this cutting down, except where there is no chance for the apposition of bones being secured without it. I think that many cases of deformity might be obviated by the treatment suggested of cutting down on the bone and the removal of any foreign material that may have been deposited, such as spicula of bone, muscular tissue, coagulated blood, etc., then coapting the parts tightly. The difficulty is sometimes in keeping them in place when they are once fixed. Dr. Christine suggested that mechanical appliances would accomplish this purpose, which, of course, would have to be tested to demonstrate their efficiency.

Dr. W. B. Van Lennep: I have had considerable experience as one of the surgeons of the Hahnemann Hospital with compound fractures and with this method of accurate, mathematical union, and my results have been very satisfactory indeed. In the average simple fracture of the leg we keep the patient in the hospital for two weeks; in the average compound fracture of the leg we keep the patient in less than three weeks—in other words, a few days longer—to make sure of the wound healing.

I should like to offer one word of caution that I feel I should give, and I have no doubt that Dr. Christine agrees with me—

that is, in making a recommendation for the universal, accurate apposition of fractures and the exploration of bones or joints by the cutting operation, we should remember that the man who undertakes to cut down on a broken bone or upon an inflamed, or even a healthy joint, must have a reasonable assurance that the wound will go right and not wrong, otherwise we simply invite a state of things that used to be always associated with compound fractures; in the olden days a great many of us here saw months and months of suppuration, septicæmia, pyæmia, amputation, and sometimes death. Any man who undertakes this method must say "I am sure, morally certain, that I will get primary union." I have seen the same idea, of which I am an advocate, result again and again in wound sepsis, necrosis, or even loss of life.

Another thing we should all remember, particularly those who, perhaps, have not the hospital conveniences, assistants or anæsthetists with which we hospital or city surgeons are blessed, and that is, that we have the X-rays, in the fluoroscope, as well as in the skiagraphs, the means of accomplishing great accuracy in diagnosis and treatment. X-ray machines are now brought down to such a figure that every practicing surgeon ought to own one. Not a day passes in my office that I do not use mine, and the new machines as sold now do not cost any more or as much as a good microscope, and every one feels obliged to have a microscope at hand in the practice of any specialty, or even in general medicine. So any one of us who undertakes surgical work should add to his armamentarium an X-ray machine. In that way we can find out the exact character of an injury, and if we are not satisfied with our diagnosis by all the means in our power, then we can cut down.

There is one other point I would like to mention. In many of these cases of so-called "bad union" and "malpractice" suits they are dependent on the fact that we do not understand the history of fractures; and when I say *we* I do not mean the general practitioner, but the surgeon.

Now, Dr. Roberts, who advocates the pin, is the one who advocates the natural position of the arm by means of the pail-carrying-splint, and the results of this in the hands of those

following the plan have been universally excellent. I can say that I want nothing more than the pail-carrying splint for fractures of the internal condyle. He is the one who not only deprecated wiring, but also splinting of the average Colles's fracture, and said that if such a fracture was once accurately set it could not get out of place; only a slip of adhesive plaster was necessary to hold it. Again, how many men have overlooked in a sprained wrist a Colles's fracture. I do not believe there is a week that passes by that I am not called on to see a sprained wrist, of five or six weeks' standing, in which, by feeling a bunching at the lower end of the radius, we can recognize an impacted fracture which it is too late to correct. The same is true of fractures of the clavicle—we do not feel called upon to wire or nail them; and, although we get a certain amount of shortening and a larger or smaller lump, yet the function is perfect.

So I repeat that we should only use the cutting operation in the obscure cases which we have not properly diagnosed and reduced by means of an intelligent touch and the X-rays. Furthermore, if we do undertake to cut on them, let us be sure our wounds are going to unite *per primam*.

Dr. L. H. Willard: I only heard one portion of the paper; I heard Dr. Van Lennep speaking in regard to skiagraphs, and here are some specimens. I think this is a very commendable undertaking, but not always all of us have the means to get suitable instruments, and some fractures unite anyhow without any picture being taken, but a great many come to us with what have been obscure fractures, which have been considered sprains of the wrist and elbow-joint. I have not met with many of these cases of sprained wrists or real fractures of the wrist, but they can only be discovered by means of the skiagraph, and in some dislocations and sprains of the ankle-joint we have recently found that some of the smaller bones are fractured, and hence it reveals the reason we are so long curing sprains of the ankle-joint or foot. I suppose in future these pictures of bones will be considered legal testimony; how that will suit the profession I do not know, but it is coming down very close if we are going to be convicted because a man

has not a skiagraphic picture, and this picture has got to be taken into court; it will be absolutely necessary for a man to have an instrument to examine fractures. It is coming down to very fine points to compel pictures being taken.

In reference to fractures at the lower end of the radius, a great many of these can be reduced, and afterward union will take place without any trouble, but, at the same time, I would be very reluctant to treat a case of that portion of the arm without a splint at the present time.

Dr. W. B. Van Lennep: I hope the Society did not understand me to advocate Dr. Roberts's method of adhesive plaster. I certainly believe in the splint for Colles's fracture.

Dr. G. M. Christine: I feel that I have taken up too much time in the consideration of a subject that we could consume days in discussing. It is a paper that I wrote with the intention of eliciting a pro-and-con discussion. I am very glad that Dr. Van Lennep has so thoroughly agreed with me as to the precaution we should use. We should not operate unless we have conditions surrounding us which are perfect, unless we can fairly promise that the patient will have a good recovery. In all cases of mal-position, such as of the lower end of the radius, where there is impaction or implication of a tendon, as sometimes happens, no possible amount of manipulation can free these fractures. I should say it is absolutely impossible to reduce these even under ether, and the only thing to do is to cut down and see what we can do then; if we get the consent of the patient, we should surround that patient with all the precautions and care we can from a surgical standpoint. Then, if we fail, we have done our duty. As I remarked before, there could be a great deal said on this subject, but I think it is wise to say no more at the present time.

THE TREATMENT OF LEG ULCERS.

J. W. HASSLER, M.D., PHILADELPHIA.

THE views as expressed in this paper were acquired from the treatment of some fifteen hundred cases in the surgical dispensary of the Hahnemann Hospital of Philadelphia. The treatment of ulcers is varied, and each and every physician has his or her peculiar powder, antiseptic lotion, ointment, or manner of application of dressings. We have not been biased in our treatment of these cases, but have applied the different ointments, powders or lotions as advised with partial or no success, finally coming back to the recognized stand-bys, an explanation of which will follow.

An ulcer is a solution of continuity caused by molecular loss of tissue; therefore, healing is by second intention or granulation. Different varieties are spoken of, but for simplicity we will classify them into but two. 1. The simple, healing or aseptic ulcer. 2. The septic or sloughing ulcer. All ulcerations are amenable to a general line of treatment surgically, differing only as to their dietetic or medicinal adjuvants. We will consider, first, the simple, healing or aseptic ulcer—a form all ulcerations must attain before healing; or, being a simple ulcer from traumatism, etc., through an accidental condition may be caused to change its characteristics and become a septic ulcer. We have found that a plain antiseptic dressing, preferably a corrosive sublimate solution, changed every day, will cause a rapid advancement of the epithelial covering desired.

The following method has been found beneficial by causing healing under a crust, viz., by dusting on of aristol, which forms, with the lymph, a glutinous covering; being only applied when the granulations are level with the epidermis. Aristol possesses tremendous cicatrizing powers, therefore it should not be used in deep ulcers where it is necessary to recover a loss of substance. In these conditions a dry dressing should never be used, but a moist one—bichloride of mercury, carbolic acid or formalin

solution. I would advise against ointments of any kind; from observations they cause a dirty-appearing wound, and are liable to septic change. It has been said, in favor of ointments, that they cause a constant humidity of the wound, the ointment preventing the drying of the wound by always keeping a light layer of lymph upon the surface. But this one fact, accumulation of lymph, may be the hot-bed for septic infection by accident. Another theory advanced is the facility in changing dressings, as they do not adhere, and can be removed without injuring the granulations and causing a laceration of the newly formed capillaries. With patience and free irrigation of the dressing with your antiseptic solution you will be able to loosen them so as to cause no injury to the granulations. It has also been observed by us that the adhesions of the dressings are not to the granulating surfaces, but to the healthy unruptured skin surrounding the wound.

In cases of simple ulcers, more or less deep, the granulations frequently become soft and pale. To cause a healthy proliferation it is necessary to irritate the surface so as to cause an exuding of plastic lymph. This irritation should not be obtained with caustics, or any substance which will necrose the tissues. Boric acid, or a 10 per cent. powder of boric acid and iodoform are certainly the superior agents, causing sufficient irritation without injuring the healthy tissues beneath. Frequently the granulations become exuberant. To restrain the overgrowth, nitrate of silver or scissors curved on the flat will remove them. It has been advocated in favor of the nitrate of silver pencil that by a specific action it accelerates the formation of the epidermis.

As septic ulcers we class all solutions of continuity of the tissues which are undergoing degeneration from microbic implantation. Of these we have the fungous ulcer, due to an interference with the return circulation of the blood; inflammatory ulcer of the drinker; sloughing ulcer, seen in connection with venereal diseases or sexual excesses; phagedenic ulcer, due to the multiplication of a specific micro-organism in the tissues broken down by intemperance, bad blood, etc., and is usually of venereal origin; indolent or chronic ulcer, the

most prevalent of all ulcers, where the granulating surface has its healing process interfered with by some irritation, mechanical or otherwise; epidermis is prevented from forming, the margin and base are formed of dense fibrous tissue, causing them to adhere to subjacent fascia; this cicatricial tissue cuts off the arterial supply, preventing the formation of healthy granulations; varicose ulcer, due to an interference with the venous return.

In the treatment of septic ulcers, their ætiology must be taken into consideration. If due to interference with the return circulation, by position favor the return of venous blood and by the indicated remedy support the circulation. If from alcoholic and sexual excesses, poorly nourished condition or local irritation, stop excesses, change diet and remove irritant, together with a general tonic treatment. If of a specific origin, the usual remedies in those conditions. The varieties most commonly met with by us have been the indolent, varicose and phagedenic ulcers. In a dispensary practice the usual condition of a wound, on first presenting itself, is sloughing in character. First treatment is the thorough removal of all sloughing tissue by curettement or cutting; if condition is moderate, nitrate of silver. Lately, I have used in two cases, for the removal of sloughs, papoid. It will digest and almost liquefy a slough in from twenty-four to thirty-six hours. If it will do this in every case, we can abandon the painful methods of curettement and cutting. Following the removal of the slough, the first dressing consists of wet bichloride of mercury gauze; the subsequent dressings depend on the appearance of the wound. If ulceration is deep, boric acid powder is used, filling up the cavity. The external dressing in this as in all cases is wet gauze, saturated either with bichloride of mercury, carbolic or formalin solutions; depending upon the susceptibility of the patient to withstand bichloride. If the skin becomes irritated by it, we change to carbolic or formalin. If the wound is more superficial, 10 per cent. powder of iodoform and boric acid is applied. Picric acid solution, consisting of picric acid, grains $37\frac{1}{2}$, alcohol, ounces 1, aq. dest. 1 pint, has been of service, especially where the lesion is extensive and su-

perficial, applied upon gauze. The granulation remains clean and bright; the epidermis forms rapidly.

In the chronic or indolent ulcer, as the usual condition is that of cicatricial margin and base, causing a choking off of the circulation, removal of the condition is advised, or radiating incisions through the margins and base. Frequently the power to reproduce epithelium is lacking in connection with unfavorable physical conditions. Skin grafting is then indicated. In some instances amputation has been resorted to. The dressings are according to conditions, whether deep or superficial, sloughing or not; to be applied as previously indicated.

Two very interesting cases of indolent ulcers are being treated at present. Mr. G., negro, 40 years of age, servant. Swelling of the leg two years ago; breaking down of the tissues between the knee and ankle; came to see us December 12, 1897. Leg larger than thigh, horny and wrinkled skin at ankle, ulcer encircling leg from ankle to midway up leg. Diagnosis, lymphœdema. Thorough curettement and antiseptic dressings were applied, with pressure bandages of muslin for two weeks, followed by the picric acid solution. The result was surprising; the granulations picked up and a number of small openings healed in six weeks; from that time very little progress was seen until the past two months. Different powders had been used with little or no success. The odor was heavy and penetrating. Boric acid powder had not been used on account of the superficial condition. It was applied two months ago simply as a deodorant; the change was remarkable. The odor was destroyed and the ulcerations are healing rapidly; new epidermis is seen at every dressing. The wound measures but three inches in length and one and a half inches in width. The size of the leg is normal at the present time; pressure bandages had been applied during the entire treatment. When he first applied amputation had been advised, but he refused.

Mrs. B.; white; age 30; servant. Indolent ulcer for seven years, encircling entire limb, just above ankle; width three inches. Came under our observation six months ago. Received similar treatment as the previous case; progress slow, due, no doubt, to the lack of attention, being unable to report

but twice a week. The wound has become smaller, measuring but an inch and a half in width at the present time. Boric acid powder is being applied with iodide of potassium, 25 drops three times daily. Recovery doubtful. Cause of ulcer, syphilis.

PUNCTURED WOUND OF THE COMMON CAROTID ARTERY.

H. L. NORTHROP, M.D., PHILADELPHIA.

In the early days of surgery operators entertained a wholesome fear of blood-vessels. No structure, perhaps, was kept so constantly in mind, and before the mind's eye, as the artery or the vein; no part received such deference from the surgeon as the vessel upon whose integrity, it was thought, the success of the operation depended.

The earlier works on surgery contained chapter after chapter upon the relative position and course of the veins and arteries and their branches, and the surgeon then was *necessarily* a good anatomist. He depended upon his knowledge of anatomy to enable him to locate and avoid blood-vessels, while a hæmorrhage from an operation wound was considered a disaster.

Probably this fear of encountering hæmorrhage was due to the poor and primitive means at hand of finding and tying vessels. The surgeon was obliged to pick up each vessel in turn with that antiquated, infection-causing instrument, the tenaculum, and ligate it before proceeding further. How easily, quickly and safely to the surgeon of to-day is hemostasis secured. The modern self-retaining hemostat (artery forceps or clip) has revolutionized the all-important part of an operation—blood control. Now the surgeon calls less frequently upon his storehouse of anatomical knowledge than formerly. He cuts openly, freely, boldly, anywhere and everywhere. If he encounters a blood-vessel (and he does not stop to think specially whether he is going to encounter one or not),

he secures it at once with an artery clip, and, the hæmorrhage controlled, proceeds with his operation.

Hence we understand why the surgeon of to-day has little fear of hæmorrhage. In accident and operation wounds, where enough blood has been lost to cause serious shock and collapse, the surgeon has at his command, in infusion, the means of replacing the vital amount lost—not with blood, but with something which answers every purpose for the time being, namely, salt-water; and thousands are alive to-day who would be in their graves had it not been for the infusion of saline solution into the circulatory system at the time they suffered a severe loss of blood. It's a poor rule that won't work both ways. The old-fashioned doctor opened a vein to let out blood; now we open one to put in blood, or its substitute.

Arteries and veins have no fear for us; loss of blood gives us no alarm. At least such had always been my feeling in this matter until I was brought face to face with a hidden, punctured wound of the common carotid artery; for whose majesty, when so punctured, I will evermore entertain a most profound respect.

Harry Gilson, a boiler-maker, was struck in the neck by a flying piece of steel, which caused free hæmorrhage. The steel was unsuccessfully probed for at the Samaritan Hospital, Philadelphia. He was sent home, and advised to report at the dispensary on the following day. During the night his dressings were soaked with blood, his respirations became embarrassed, and the police patrol brought him to the Hahnemann Hospital at 2.15 A.M. The bleeding having ceased, no immediate treatment was necessary, and I saw him early that morning. He was a large, muscular fellow, with a thick neck, naturally. Upon removing the dressings I saw a wound one-half inch long over the anterior surface of the right sterno-mastoid muscle, one and one-half inches above the clavicle. Both sides of the neck, the right the worse, were considerably swollen, and respirations were slightly interfered with. His voice was thick, tight and hoarse, and I suspected beginning œdema of the larynx. I attempted the use of the laryngoscope, but the

patient could not open his mouth enough to show even the base of his tongue. I told him it would be folly to try to find the steel, which had cut a deep vessel; that the best plan was to let him alone and await developments.

He was then placed in bed, upright, with ice-bags surrounding his neck, and one-eighth of a grain of pilocarpine was injected into the neck tissues on the left side. Liquid diet was ordered, and the nurses were instructed to watch him constantly. In two hours I was summoned by telephone, with the report that the patient's neck had swollen enormously and breathing was seriously obstructed. Upon reaching the hospital I found Gilson restlessly walking around, fighting for breath, and hardly able to articulate. Preparations were immediately made for tracheotomy.

With the patient sitting upright on an operating table, I injected cocaine beneath the skin in the median line. In this, and throughout the operation, what there was of it, I never made more strenuous efforts to work in the median line, realizing that the hematoma, present to a greater degree upon the right side, had probably caused more or less displacement of the trachea and contiguous structures.

An incision through the skin revealed all the neck tissues thoroughly infiltrated with blood, and so discolored that they were recognized with difficulty. I worked my way carefully down through the thickened neck, and when I reached the trachea the wound was three full inches deep. So far knife or scissors had been employed very little, and I now used only my finger to determine whether the trachea was or was not in the median line. While palpating gently on the right side of the trachea, my finger broke through a thin connective tissue barrier. At the same time a cloud-burst of arterial blood drenched everything in the patient's immediate neighborhood. The swelling of the neck disappeared simultaneously with the hæmorrhage. I thrust two fingers into the cavity and compressed the neck tissues, and then poked in a tampon, packing the rest of the wound with iodoform gauze. Now I appreciated the fact that the piece of steel had wounded the common carotid artery, and that this vessel would have to be ligated. That,

of course, was out of the question at this time. The patient was practically pulseless, and was beginning to lose consciousness. Without delay he was placed flat on his back, with his head low, and three quarts of salt solution were injected into the median basilic vein of the left arm. This was promptly successful, the pulse becoming full and steady. For three hours we held compresses in place in the wound, and thus controlled the hæmorrhage. It then became necessary to infuse again.

I now passed my finger into the lower angle of the wound, and reached a point directly behind the right sterno-clavicular joint, the origin of the right common carotid artery, when I felt the full, distended, pulsating vessel. Guiding a clamp along my finger, I caught the artery, and gently removed the packing from the wound. There was no further bleeding, and the wound was repacked as before.

The patient received full diet, milk punches, hemaboloids, china φ, and aromatic spirits of ammonia. He recovered promptly from the shock.

Fearing the clamp would ulcerate through the vessel wall, and that the last state of that artery would be worse than the first, I decided to attempt to ligate. That was forty-eight hours after the application of the clamp. The patient was in no condition to take a general anæsthetic, so I carefully removed the gauze pack, and found the clamp had lost its hold on the carotid, probably forced off by the blood-pressure within. At this juncture, without any provocation, a quantity of blood escaped from the steel wound in the artery above, and immediate application of the clamp and repacking of the wound were necessary, and put a stop to any further attempts at ligating. The patient was again infused.

Four days later the clamp was carefully removed and the wound repacked. No bleeding. Patient improving, gaining strength and color.

Twelve days after admission, while eating supper, bleeding recurred. Several clamps and clips were applied by the resident surgeon to the deepest part of the wound, as accurately as possible on the carotid artery, and two quarts of salt solu-

tion, with four ounces of brandy, were injected into a vein in the right arm. Patient's pulse reached 160.

The behavior of this wound plainly told us to keep hands off. A look even seemed sufficient to start the leak. Should hæmorrhage suddenly occur, the nurses were instructed to pass a finger deeply into the lower angle of the wound, and make firm pressure until aid could be summoned. The patient was kept flat on the back, and cautioned not to lift his head or make any exertion. And he obeyed to the letter.

One day his temperature reached 105°. His color had now become thoroughly cachectic, his face swollen, his hands and feet numb, with a right-sided hemiplegia, and he was delirious. He presented a picture of profound anæmia. In the meantime, his wound was being most gently dressed every other day with castor oil and balsam of Peru (5 per cent.), and appeared to be granulating nicely, though the granulations were very pale in color. We did not dare to probe the deep part of the wound.

On the fifteenth day after admission a gush of blood compelled me to try to put a stop to this series of troublesome, life-sapping hæmorrhages. I therefore made preparations to ligate. Injecting cocaine along the anterior border of the sterno-mastoid muscle, and incising the superficial structures in this direction, I cut through the sterno-mastoid muscle transversely to enlarge my working-space, lifted up the right lobe of the thyroid gland, and, because of the depth of the wound, with difficulty exposed the common carotid artery and internal jugular vein. All this time an assistant's finger compressed the carotid over the wound in its wall, thus partially controlling hæmorrhage. I now attempted to pass a ligature around the carotid artery about one inch above its origin, but failed because I could not disturb the vessel enough to liberate it from its connective-tissue bed. I ran too great a danger of perforating the jugular vein. The bleeding was absolutely beyond our control, and further efforts at ligature would have exsanguinated our patient, already semi-unconscious from the phenomenal bleeding he had been subjected to. After consultation with Dr. W. B. Van Lennep the clamp was again resorted to, and was applied accurately to the carotid, but did

not—could not—include the entire vessel, for when this was done the most excruciating pain ensued, through clamping of the pneumogastric nerve. Our efforts at ligature were thus completely frustrated, and we had to be satisfied with the hope of closing the wound in artery and neck by granulation tissue. The patient now had six clamps and clips in his neck wound, and these were gradually loosened by the blood-pressure, so that in five days they had to be removed.

On the 25th of July hæmorrhage occurred for the sixth time. The wound was repacked tightly and the patient infused.

No further bleeding for the present. The wound then began to look more active, to granulate nicely, and the deep part apparently closed. Patient's general condition was much improved. He was allowed to sit up in bed on August 5th, and two days later enjoyed a rocking-chair for about one hour. August 9th his evening temperature was 99°, pulse 116. He slept quietly until midnight, when he awoke with a start, bled profusely, and died before aid reached him.

The post-mortem examination showed a wound one-half inch long in the anterior wall of the right common carotid artery, with a piece of steel one-half inch long, three-eighths wide at one end, and sharply pointed at the other, lying transversely in the artery one inch above its perforation.

I trust that the strenuous efforts I made to control the hæmorrhage from this man's neck are apparent to those who review this case with me, just as the predicament I was in was appreciated by all who witnessed the operations or assisted in the care of this unfortunate patient. Unable to administer a general anæsthetic, because of the strong likelihood of a fatal hæmorrhage being produced by the patient's struggles and the increased arterial tension and circulatory excitement; unable to release the artery sufficiently from its connective tissue sheath to ligate it because of the impossibility to successfully compress it, and thus completely control the hæmorrhage, even for a short interval, I was more than once compelled to keep hands off and stand at a distance from this menacing carotid wound.

The chief warning to be noted in this case is that any physician is liable to encounter the same kind of a wound; me-

chanics in many country shops are exposed to the same danger and the same accident. Fortunately wounds of the common carotid are not of frequent occurrence in times of peace, though bullet and sabre wounds of this vessel are met with frequently in war.

A perusal of the surgical volume of the *Medical and Surgical History of the War of the Rebellion* gives a total of seventy-five ligations of the common carotid with a mortality of 78 per cent. One table of fifteen cases of ligature of this vessel for gunshot injuries records the death of every case. But this high rate of mortality may have been due, in great part, to the absence of antisepsis. The surgical history of the Hispano-American War is therefore awaited with great interest.

Swasey (New Britain, Conn.) reported a successful ligation of the common carotid artery and internal jugular vein after penetration, in *The Medical Record*, February, 1888. Swasey's patient was struck in the neck by a piece of steel flying from a hammer. It was deemed inexpedient to give an anæsthetic. Laying open the neck tissues freely, he found the sterno-mastoid muscle had been divided by the chip of steel through nearly three-fourths of its substance, which fact facilitated the search. By the application of four pairs of artery forceps the hæmorrhage was controlled, then the sheath was dissected from the vessel, and braided silk ligatures were applied. The jugular vein was reached by slitting up the sterno-mastoid, and although the patient was supposed to be dead during this procedure, he finally rallied and recovered.

THE TREATMENT OF RECTAL DISEASES.

W. G. STEELE, M.D., PHILADELPHIA.

In considering what subject might interest this organization I finally concluded that an outline of treatment of the commoner rectal diseases, met by the medical man, would be interesting and possibly instructive. I well remember some

years ago, on my return from a course of instruction and study in this special line of work, meeting a professional friend, who said he had a case of hæmorrhoids for me, and who asked what line of treatment I would probably follow. I was then impressed with the idea that there was only one way to successfully treat hæmorrhoids, and that was "cut them out." I so informed my friend, who remarked that he was afraid his patient would not submit to that treatment, and so it proved, the patient going to other hands and getting relief. I soon saw that while "cutting them out" was good treatment from a surgical point of view, yet patients demanded a treatment which was milder, and not likely to cause confinement to the house. I then commenced the so-called "injection treatment," and have used it, with very satisfactory results, for the past six years, using a number of different formulæ, phenic acid, however, in different proportions being the main ingredient; a formula which I formerly used quite extensively being a 10 per cent. sol. of phenic acid in aqua dest. and hamamelis Virginica. My experience teaches me that the method of using is of more importance than the formula. By this I mean the injection should be made into the body of the hæmorrhoidal mass, avoiding the connective tissue. At present I am using an extremely satisfactory formula, which I obtained in a manner that precludes my publishing it at this time.

While I have been injecting hæmorrhoids for a number of years without meeting any serious complications, I am aware that unfortunate results do follow, even in skillful hands; but I am constantly watching for manifestations of trouble, and on the first signs of trouble I carefully examine and use every care to obviate it; yet from what I can learn of the complications which at times follow the proper use of this line of treatment, they are seldom, if ever, more serious than would be the original operation of ligature, or clamp and cautery.

Cases are met which require other methods of treatment than injection. In quite extensive cases I prefer the clamp operation, using a Lind clamp, which avoids the necessity of using the cautery, the operation consisting of dilating the sphincter, grasping the mass to be removed with a T forceps,

everting it and applying the clamp. The Lind clamp when closed crushes the tissues in a tongue and groove joint; after, say, a minute or more, remove the clamp and cut along the middle line of crushed tissue; if properly done there will be no hæmorrhage; apply sutures as necessary; apply dry dressing with firm perineal pad. This is a very satisfactory method, little or no blood being lost, and when used as above outlined there will be no occasion for the barbarous burning with the cautery, and consequently no eschar to slough off, with unexpected and violent secondary hæmorrhage, which sometimes follows the clamp and cautery operation.

Many patients tolerate hæmorrhoids for years, until by some accident they become strangulated, when the suffering thus induced causes them to seek relief. In these cases my practice is to first administer nitrous oxide gas in my office, stretch the sphincter, and thus easily reduce the mass. In the reduction of hæmorrhoids a little practical point of great value is to press the presenting mass firmly between the finger tips, squeezing the blood out of it as much as possible, while at the same time directing the general pressure of the mass in the direction it should go to return within the sphincter. The combination of the stretching and the use of the above manœuvre renders easy what would otherwise be an extremely difficult and painful procedure, and is accomplished in a very short time. I generally use a plug of absorbent cotton with some ointment on it, supported by a perineal bandage, after this operation.

Another mode of procedure that I frequently follow, particularly when operating for some other lesion, as lacerated cervix or perinæum, etc., is what is known as the slit method of Dr. Pratt. This consists of trimming a fine line of mucous membrane directly across the most prominent portion of the hæmorrhoidal mass, and with the points of the scissors teasing out the venous network and enucleating it. In case of severing an arterial twig, either ligate or apply torsion to the bleeding vessel. I generally follow this operation by the insertion of a plug of sterilized China silk, as the pressure and the silk controls any oozing that might follow.

There is a remarkable property connected with the use of

raw silk, properly sterilized and used in this manner. The powerful influence exerted by spider web in arresting hæmorrhage has long been known, and undressed silk, which is substantially a similar substance, it has been found, also possesses this remarkable property. By its mere presence and contact, in some unknown manner, it acts as a powerful styptic. As a matter of personal experience I once saved a life, or at any rate a formidable surgical operation, by merely inserting some of this substance in the bony cavity, in a hæmorrhagic patient, from whom a tooth had been extracted, and in which the hæmorrhage was altogether uncontrollable by other means. I had previously packed the cavity tightly with cotton in connection with a styptic, but notwithstanding this the hæmorrhage continued, while after the application of the silk the hæmorrhage almost immediately ceased, and did not recur after its removal about forty-eight hours afterward.

I well remember the surprise of one of my surgical friends, who had invited me to assist him at an operation for hæmorrhoids, when I demonstrated to him this so-called slit method. I had to assume all responsibility before he would entertain the idea, as the departure from orthodox lines was so radical; but after he witnessed the ease and simplicity of the operation he became an enthusiastic advocate of this method, and informs me that he has secured some beautiful results from its performance.

In *external* hæmorrhoids the only treatment I use is to insert a sufficient quantity of eucaine, 5 per cent. sol., incise the hæmorrhoid, turn out the clot, pack lightly with gauze, adjust firm perineal support, and the patient will "rise up and call you blessed."

Fissure is one of the most painful and yet easily-corrected conditions met with in rectal practice. The treatment in these cases consists of the administration of nitrous oxide gas, stretching sphincter, and frequently of drawing a bistoury lightly over the bottom of the fissure, to be followed by the application of a stimulating ointment on gauze, lightly laid in the track, and changed as required; this will be found to be all that is generally required to cure cases of this disease in short order.

Pruritus Ani.—I believe this affliction to be generally due to a minor organism, as, before reaching this conclusion, I had examined and found cases with apparently nothing to correct, and yet suffering more torments than could be readily described. In these cases I have found good results follow the use of different ointments and lotions, as quinine sulphate in lanoline, lotio nigra, or a combination of calomel, zinc oxide, starch and lanoline; but the secret of curing these cases is in the manner of preparing the patient for the treatment, which I believe to be as follows: Three times a day the patient is to apply cloths, wrung out of water as hot as can be borne (this greatly increases the skin absorption), to be immediately followed by the use of the application selected; usually a couple of days will suffice to mitigate the sufferings about 50 per cent. In *itching hæmorrhoids* I find the application of nitrate of silver in solution to prove quite satisfactory.

Rectal Prolapse.—Examine any of the text-books on rectal surgery, and the treatment advocated will be found to be as follows: Linear cauterization with Paquelin's cautery; excision of a part or all of the prolapsed tissue; or the application of fuming nitric acid to the mass. Now in these cases, and they are more common than is generally supposed, I have found the injection treatment to be much simpler and perfectly satisfactory, as by depositing a few drops of the fluid into the prolapsed tissue an absorption of this area is produced; and when repeated at intervals of about a week in different portions of the mass, in a comparatively few weeks persons who have suffered for years from this distressing affliction are enabled to once more lead active lives, without the fear of this accident overtaking them. In this connection I cannot refrain from citing the case of a physician, known to several of those present. He had, for ten years or more, been in failing health, and at every act of defecation his bowel would protrude for several inches, accompanied by profuse hæmorrhages, which depleted him until he looked like a walking ghost, and many of his professional friends had remarked: "Poor fellow! his days are numbered!" Two surgeons had refused to operate on him on account of his bad general condition. After about six

treatments, as above outlined, given two years ago, his health had so improved that he satisfactorily passed a life insurance examination, and has gained some fifteen pounds, and once more enjoys life as he had not done for years.

His satisfaction, indeed, was so great that he came to me with the request that I would give him full information and instruction as to the method I used, as he thought it was such a wonderful power for good that he proposed to advertise and build up a business in the orthodox manner of the advertising "Rectal Specialist," which it is unnecessary to say I kindly but firmly declined to do under the circumstances. In the prolapsus of infants I always assure myself that *phimosis* does not exist, and, if found, remove it, as it is a prolific cause of prolapse.

Rectal Abscess.—Nature is often kinder to us than the doctor, as some cases of ischio-rectal abscess are allowed to progress, and pus to accumulate and burrow, because the attending physician dislikes to make the necessary incision to allow of the escape of accumulated pus. One of my professional friends told me of the days of suffering to which he had been subjected, before he became a doctor, by his physician insisting that nature be allowed to cause the breaking of a rectal abscess. His tortures, he said, were indescribable for over a week; the buttocks were soggy and raw from the continuous application of poultices, and his nervous system shattered from loss of sleep and excessive pain, and each act of defecation caused him to become almost a maniac. Finally, in delirium, he rolled off the couch on which he had been lying for more than a week. The consequent succussion caused the rupture of the abscess, with the discharge of nearly a pint of the most fetid pus, and, strange to say, this man has no fistulæ. Now the plan I follow in these cases of ischio-rectal abscess is: As soon as the diagnosis is clear, without waiting for superficial fluctuation, I administer an anæsthetic, make the necessary incision to reach the collection of pus, and sometimes with the finger, at others using the curette, remove all sloughing tissue, dilate the sphincter, thus affording rest for the parts, and materially thereby aiding in the consequent rapid healing; pack

the cavity lightly to the bottom, cleansing the wound and changing the dressing daily, or as required. In my hands this mode of treatment leaves nothing to be desired, and I cannot now recall a single fistula following this method of treatment, when I have seen the case in anything like a reasonable time. Indeed, I have been surprised to see the rapidity of cure in some severe cases following the above method. Of course, in many cases of ischio-rectal abscess, a perforation of the bowel is the starting-point, but even here great results may be secured.

Rectal Fistulæ.—In the treatment of this affliction much may be accomplished by the exercise of patience, in conjunction with thorough cleansing, and the injection of various solutions by means of a specially constructed syringe having a silver canula about five inches long. The solutions which have given me the most satisfactory results are iodine tincture, a 10 per cent. solution of phosphoric acid, solutions of bromine, nitrate of silver, or of phenic acid, and often of pure bovinine. Only a few days ago a lady from Cape May, N. J., called on me to again express her satisfaction at the result of treatment for a fistula which had existed some seven years, and which I had cured for her over three years ago by this method of treatment in about as many weeks as she had suffered years, and without any pain whatever being manifested, and without any confinement to the house. It would hardly be reasonable to expect this line of treatment to cure cases presenting numerous fistulous openings, or the horseshoe variety of fistula. In such cases my practice is to lay open all fistulous tracts until the main tract is found, and follow this up to the sphincter muscle, beyond which point I curette the sinus thoroughly; and if an internal opening can be found, I *excise the borders of this opening* and stitch them together, and then lightly pack the canal beneath, until it heals by granulation from the bottom. The stoppage of the draining from the rectum into the sinus by attention to the internal opening is the particular feature of this method, and will often save the necessity of division of the sphincter muscle, with its consequent risk of rectal incontinence; but cases are met with in which nothing short of sever-

ing the sphincter would hold out reasonable hope of successful treatment. In such cases only one cut of the muscle should ever be made at one time, as nothing is more haunting to the rectal surgeon than a case of rectal incontinence; and yet even in these desperate cases surprising results may be obtained by great care, with a thorough understanding of just what to do.

In this connection I would like to cite a case to which I was called by a brother physician last fall; it was a man 32 years old, who had been suffering for eight years with gluteal abscesses so numerous and so extensive that his whole buttocks presented an exquisitely sensitive and suppurating mass, ac-

companied by excessive and continuous pain, which existed night and day and prevented sleep, and it was altogether impossible for him to sit on the affected area, while pus discharged freely, and, indeed, in large quantities from ten different openings situated in adjacent points over the entire gluteal area on both sides, but principally on the right. It was believed to be a case of tuberculosis and probably incurable. I have some photographs taken two days after the operation, which will in some manner show the enormous area occupied by this pyogenic and burrowed-out series of fistulous sinuses and cavities, and the extensive work required to have a reasonable hope of effecting a cure. At first sight the appearance of this case was most formidable. I was not sure myself, on account of its extensive ramifications, that it was not tuberculous in its origin. On account of the extreme sensitiveness of all the parts examination was extremely unsatisfactory, but it was obviously necessary to reconstruct the whole gluteal region in order to effect anything approaching a cure.

Under anæsthesia I laid open all these radiatory sinuses and pockets, some under the skin and others much deeper, and found them connected with a central cavity adjacent to the side of the bowel. This central cavity formed a deep sinus extending up alongside the bowel to a depth of four inches or more, and as large as my finger, but it was impossible to find any connection between this sinus and the interior of the bowel, although it was obviously a true fistula. When this part of the operation was completed, and the sinuses all thoroughly curetted, I packed the deep sinus with gauze and sutured the flaps, previously having removed with the scissors and curette all dead and pyogenic tissue,* then applied an antiseptic dressing snugly to support the flaps, and kept the deep sinus open by means of a drainage tube; the patient slept twelve hours the night following this operation. The cure was necessarily protracted, but the process was continuous and gratifying, and I am able to report now that the patient is substantially well

* This illustration (taken two days after the operation) will give a general idea of the extensive work necessary to remove the dead tissue and open the numerous fistulous openings to have the parts in the best condition for healing.

and has been fulfilling a responsible position for the past five months, calling at my office occasionally for dressing. A couple of superficial sinuses remote from the original seat of trouble and of no particular significance, which can be laid open at any time, are now the only evidences of suppuration which he presents; he can now sit on his buttocks, and in fact to all intents and purposes is a well man. The portions from which large areas of flesh were removed having cicatrized very kindly, the result has been surprisingly good.

I have in these remarks laid little or no stress on the internal administration of remedies, but this is not because I have no confidence in internal medication in these cases, but because most of the cases to which I have referred have been placed under my care by other physicians, who were quite as well skilled in the treatment of these affections by medication as myself, and in some instances much more so, and also because the subsequent treatment, so far as internal medication was concerned, was necessarily in the hands of those physicians in conjunction with whom I operated, and upon whose province I have made it an inflexible rule not to trench, either in my professional consultations with them or in my intercourse with the families into which I have been called in connection with these matters.

THE SURGICAL TREATMENT OF TUBERCULOSIS LYMPHADENITIS.

WALTER STRONG, M.D., PHILADELPHIA.

Although tuberculosis of the superficial lymphatic glands is a very common condition, it is a most important subject for our consideration—a subject presenting many interesting and intricate problems which merit the attention of both physician and surgeon; moreover, it is a subject having considerable bearing upon the ætiology of general tuberculosis.

Unfortunately, the limited time at our disposal will not permit of a thorough consideration of all the phases of this sub-

ject. Consequently I shall be compelled to limit myself to the surgical aspect of the disease, together with the operative treatment, with which I have had considerable experience.

Tuberculosis did not until quite recently claim the attention of the surgeon, for although the inoculability of tuberculosis was accidentally discovered by Laennec in 1826, and the same demonstrated experimentally by Villemin in 1865, it was not looked upon as a surgical disease until the discovery of the specific bacillus by Koch in 1882, since which time it has received much attention from surgeons, until to-day we find that it is more of a surgical than a medical disease.

By far the most common variety of tuberculosis met with in surgical practice is tuberculosis of the superficial lymphatics, occurring, as it does, at all ages, from infancy until late adult life. It occurs both independently and in combination with all other forms of tuberculosis, forming a most important disease in surgical work.

The importance of a thorough knowledge of tuberculosis of the lymphatics cannot be overestimated—important to both physician and surgeon. It not only represents a typical variety of tuberculosis with a typical course, but explains in a very large degree the cause of tuberculosis in other tissues and organs, and the development of general tuberculosis.

Osler is responsible for the statement that three-fourths of all cases of acute tuberculosis can be traced to unhealed tuberculous adenitis. Warren, in his excellent work on surgical pathology, tells us that many fatal cases of tuberculosis have their origin in "scrofulous" cervical glands, and, as a pen-picture of such an occurrence, relates a case which had scrofulous glands in childhood, later in life had white swelling of the knee, and eventually died of pulmonary tuberculosis. Carr, from 120 post-mortem examinations performed at Victoria Hospital, London, concludes that tuberculous diseases in children usually commence in the lymphatic glands; while in the Blegdams Hospital at Copenhagen, out of 384 autopsies of children who died of acute infectious diseases 198 showed undoubted tuberculosis, and in all these cases the glands were affected.

That tuberculosis of the lymphatics is a very important factor in the development of tuberculosis in other portions of the body cannot admit of a doubt, but to what extent or in what proportion of cases it is very difficult at present to determine. The statement recently made by Thompson (New York) upon this point is probably as near the truth as it is possible to arrive at the present time. He said that so long as large, inflamed or suppurating glands are allowed to remain unmolested, there is a risk of their breaking down and serving as foci for a general infection of the system.

Turning our attention for a few moments to the anatomical arrangement of the lymphatics, we find that there are, approximately, seven hundred lymphatic nodes in the body. We also learn that they are very intimately associated with the vascular system, and that their distribution throughout the body is very general, being found in all the vascular tissues of the body. They are also divided into a superficial and a deep set, the superficial being located immediately beneath the integument and accompanying the superficial veins, while the deep set are located in the deeper tissues and in the cavities of the body. But at the present time less than one-fourth of these lymph nodes are objects of surgical interference, and it seems very improbable that it will ever be considered justifiable to attempt removal of any large number of those which are located in the great cavities. But in this study of primary infection it is the superficial lymphatics which interest us most.

Considering this disease from an anatomical standpoint regarding those regions most commonly affected, we discover that those glands which are quite superficial are the ones most frequently involved. We also learn that certain regions are more frequently affected than others. Thus, we find the cervical glands involved in 95 per cent. of the cases (Senn). Volkmann tells us that of the superficial lymphatics the cervical glands are most frequently affected, next the cubital, and less frequently the axillary. In children the glands most frequently found diseased at autopsies are the cervical, the mediastinal, the mesenteric and the retro-peritoneal.

From clinical experience we find that this disease is usually

a primary disease, as is evidenced by the fact that we very rarely meet with involvement of the superficial glands in severe cases of tuberculosis of other tissues and organs, while secondary involvement of other tissues and organs is repeatedly observed in severe cases of tuberculous lymphadenitis. This disease occasionally, but rarely, results in the development of a general tuberculous lymphadenitis without the involvement of any other organs. Osler has reported two such cases and Miller another, all of which resulted fatally.

That most cases of tuberculous lymphadenitis are directly due to infection from without has been satisfactorily shown by clinical observation, inoculations, and cultivation experiments. Thus we explain the reason why this disease is more common in certain regions of the body. We find that those portions of the body which are most exposed to external injuries, abrasions and slight inflammatory troubles are the regions most frequently affected by this disease. In the groin we have a large number of superficial lymphatics, yet, owing to the less degree of exposure of the legs to the sources of infection, we find that the disease is comparatively infrequent in this locality. The hand, being in active use, is largely exposed to infection, but it is protected in a measure by the hard horny skin covering it, and is rarely infected.

As we have already observed, in the glands of the neck we have the most frequent seat for this disease. And here we find all those conditions present which favor the development of the disease. Here we find that the face and neck are freely supplied with blood; here we have numerous lymphatic glands, both deep and superficial. In this region we find the parts freely exposed to outside influences; abrasions and slight injuries to skin and mucous membrane are quite common, while eczema and catarrhal inflammations are not uncommon. In fact, in this region we find all those conditions present which are most favorable for infection and development of this disease, and it is in this region that we can most satisfactorily observe and study the course of the disease.

From experimental research we find that a break in the skin or mucous membrane is not essential for infection. Cornet has

demonstrated that in guinea-pigs infection of the glands can be produced by rubbing the tubercle bacilli into a mucous membrane without causing any laceration, and in his later experiments has shown that infection of the cervical glands can be produced by introducing the bacilli into the conjunctival sac, the nasal cavity or the auditory canal.

Where infection occurs through a break in the skin, it is usually due to some trivial injury or abrasion. Volkmann has made the statement that infection never takes place through large operation wounds or at the site of severe injuries, but that localization of the bacilli is likely to take place in parts the seat of very slight contusions, or what may appear at the time as an insignificant injury. He explains this by assuming that active tissue-changes occurring during the process of regeneration after a severe trauma prevented the infection.

Starck has recently shown the causative influence of carious teeth; in 113 cases of tuberculous glands 41 were obviously secondary to caries of the teeth, and in 2 cases tubercle bacilli were found in the teeth-sockets. Dieulafoy expresses the opinion that many of these cases are due to infection through the mouth. Zaudy, in an exhaustive article upon this subject, states that the bacilli enter between the gum and tooth, and that caries acts as a predisposing cause. Nicholl says that in 80 per cent. of these cases the cause will be found in the naso-pharynx, and that many naso-pharyngeal catarrhs are tubercular.

Heredity does not appear to play a very important rôle in the ætiology of glandular tuberculosis, most authorities asserting that such cases are extremely rare. Most, however, maintain that a predisposition exists in many individuals to the development of tubercular diseases, which may have been inherited; that is, in certain families the tissues of the body offer a more favorable soil for the growth of the bacilli. But Frankel and others will not accept even this possibility.

The germs having once gained admission, the first station of arrest is ordinarily not in the skin, but in a lymph node. Here the bacilli meet with resistance, which is vigorous or feeble according to the condition of the individual, and if the con-

ditions be favorable the bacilli may be encountered, overcome and destroyed; but if the conditions are not so favorable, and the soil proves fertile, infection takes place, and we have a localized tuberculosis developed. Possibly the bacilli may all be arrested in a single lymph node, or they may be carried along with the lymph stream and several glands become infected. But in either case we have several centres of infection developed in each infected gland, which cause a more or less intense inflammatory action and result in the mechanical fixing of those centres of infection, together with a blocking of the lymph spaces, so that temporarily, at least, the disease remains both local and limited. But in a comparatively short period of time we find that these centres of tuberculous infection in each gland undergo caseation, breaking down into a mass, the lymph spaces are again opened up and the bacilli carried along in the lymph current, and other glands are infected. The usual course of infection along the lymphatic channels is in the direction of the lymph current, and in this respect the course of the disease is characteristic—so much so that, as has been pointed out by Gerrish, we can in a large degree anticipate the course which the disease will pursue in the different localities. Finally the bacilli are carried into the circulation, and then we have developed either a general acute tuberculosis or tuberculosis of some one of the organs of the body; but the progress of infection is usually comparatively slow, sometimes covering a period of months, or even years.

The diagnosis of this disease is usually quite easy. Inquiry into the course of any given case, together with a careful examination of the parts affected, will usually suffice; but occasionally a bacteriological examination is necessary to clear up obscure cases. Let me call your attention to the following diseases with which it may be confounded:

Syphilitic infection of the glands of the neck or elsewhere will disclose a primary infection sore in the immediate vicinity, while if the case be in either the secondary or tertiary stage numerous other indications will be present. Simple adenitis can usually be distinguished by the acuteness of the symptoms and the rapidity of its course. Sarcoma occurring in the glands

is usually single, attains greater size, rarely suppurates, grows rapidly, and involves the surrounding tissues. Adenomata and lipomata are usually single, not multiple. Pseudo-leukæmia can be diagnosed from the fact that the glands in the other parts of the body are similarly affected, together with the other manifestations of the disease.

After all that has been said regarding the danger of a general infection of the system in this disease it seems hardly necessary to say very much in regard to the prognosis, as it is favorable early in the disease, and in such stages is amenable to successful extirpation. In the more advanced cases the prognosis is to be guarded, or even unfavorable. There can be no doubt but that the presence of infected glands is a constant menace to the patient, and early and thorough removal is the only treatment which should be advised; for while it is true that these glands may undergo suppuration and ultimately result in a cure, such a course is not a rapid one, is well calculated to favor a general infection, and is fraught with much danger to the life of the patient.

The treatment of this disease is, and properly so, almost entirely operative, since nothing short of removal of the infected glands can be looked upon as insuring immunity in the future. Of course, internal medication is a valuable adjunct, especially in individuals whose condition is such as would contraindicate immediate operation. A carefully-selected diet and every attention to the sanitary and hygienic surroundings are not to be neglected. But, as I have already said, I only intend to speak of the operative treatment.

Generally speaking, operation should be advised as early as possible in the disease, and from a surgical standpoint our prognosis will depend upon our ability to completely extirpate all the infected glands. Later in the disease the prognosis is less favorable, a more formidable operation is required, and the resulting scar is greater.

The operative treatment of this disease we may conveniently divide into three heads: 1. Cautery-puncture, or destruction by heat; 2. Scraping or scooping out of contents—curettement; 3. Excision. The first method I have never employed,

the second I very seldom employ, while the third I always employ when possible. Of course, other methods, such as injection of iodoform emulsions and various other substances, have their advocates, but are not employed extensively and are of doubtful utility. So we will limit ourselves to the three first-mentioned methods and proceed to consider each more in detail.

Cautery-puncture consists in puncturing each infected gland with the fine point of a thermo-cautery heated to a red heat. Several punctures are made in different directions into each gland, after which a sterile and absorbent dressing is to be applied. This method is employed extensively by some of the English surgeons, notably Treeves. But inasmuch as I have had no personal experience with it, I am not in a position to criticise it knowingly. Apparently the object is to thoroughly destroy the bacilli by the heat, and then allow the wound to heal by granulation. What would appear to me to be more effectual would be the method which is employed in certain continental clinics—scooping out the contents and filling the cavity with sterile oil, which is then raised to the boiling-point by means of the thermo-cautery. But both of these methods appear to me as being unsurgical, and to be reserved only for such cases as are inoperable, which are very seldom met with.

The second method of curettement has a certain sphere of usefulness in those cases where the glands have suppurated and you are really dealing with an abscess; but scraping and scooping out are liable to lead to an infection of the surrounding structures. When employed, it must be thorough enough to remove all infected tissue and the lining membrane as well. Such cases should be allowed to heal by granulation, and should be kept under observation for a considerable period of time following the operation, to guard against possible recurrence of the disease.

Excision or extirpation is the operation which in my hands has been the most satisfactory. It is the most surgical of all other operative procedures, is the most thorough, the safest, and leaves less scar than any of the other methods. The

wound heals primarily, the convalescence is very much shortened, and after operation you can correctly judge as to what the chances are of a recurrence.

Excision is in many cases a very simple operation. If the affected glands are few in number, and especially if they be superficially located, the operation is easily accomplished, and attended by no more than the usual risks attached to any surgical operation. But, upon the other hand, if the number of glands affected is large, if they are located in the deeper tissues, and if they be possibly attached to important structures, as the large vessels, the operation is liable to prove exactly the reverse.

Every experienced surgeon recognizes the fact that when he enters upon an operation for the removal of tubercular glands from the neck he is to be prepared for one of the most serious procedures—an operation which is likely to prove both tedious and difficult—an operation which may involve very important structures. In many cases injury to the jugular vein cannot well be avoided. The carotid, vertebral and subclavian arteries are often exposed to view; the pneumogastric, phrenic and spinal accessory nerves may be uncovered, and when the deep glands beneath the clavicle and sternum are reached, even the innominate are close.

But even in prolonged operations—operations lasting two hours—the shock is usually comparatively slight. The secret to both success and safety lies in a free exposure of the operative field, enabling you to easily recognize the surrounding anatomical structures. The plan of some surgeons who operate through several small openings is not conducive to either safety or thoroughness. In many cases division and laying aside of the sterno-mastoid is essential for full exposure of the parts.

It seems hardly necessary to describe these operations in detail, nor to treat of the accidents which may occur. After making a free incision in the skin, gentle manipulations and the judicious use of a blunt dissector and blunt scissors will enable the glands to be shelled out one by one. When suppuration has occurred and the glands become adherent to the

skin it is best to remove the overlying skin by an elliptical incision. And in such cases it is of the utmost importance to avoid dispersion of the tubercular elements among the healthy structures.

When the connective-tissue infiltration is great and the sinuses abundant a complete excision is impossible; but here excision of the superficial tracts is most serviceable, with free curretting of the deeper ones. Tubular drainage I never use, but occasionally gauze packing is employed; especially is this indicated if rupture of a caseous gland has occurred. If I am certain that my wound has not been infected, my plan is to close without drainage. I have a decided preference for aristol in all tubercular diseases, and it appears to have a very pronounced effect upon those cases which require packing and which must heal by granulation.

Should a recurrence occur another operation is to be advised, and should be even more thorough than the preceding one. Success is ofttimes only secured after repeated operations.

Those patients who refuse an operation should be frankly and plainly informed of the risks they run—that a non-operative course of treatment may result in a cure, but only after a long period of time, during which the patient is to assume the risk. Incision and curetting is to be very strongly condemned, excepting in those cases where complete excision is impossible. We should also bear in mind that the operative scar in these cases is much less than the suppurative scar. And, last but not least, we should always bear in mind that tuberculous lymphadenitis is a far more important and dangerous disease than many imagine.

THREE CASES OF BLADDER TUMOR.

W. B. VAN LENNEP, M.D., PHILADELPHIA.

The literature of vesical neoplasms is sufficiently scanty to warrant any and many additions to the subject; and this is particularly true of clinical cases, as our present data are still

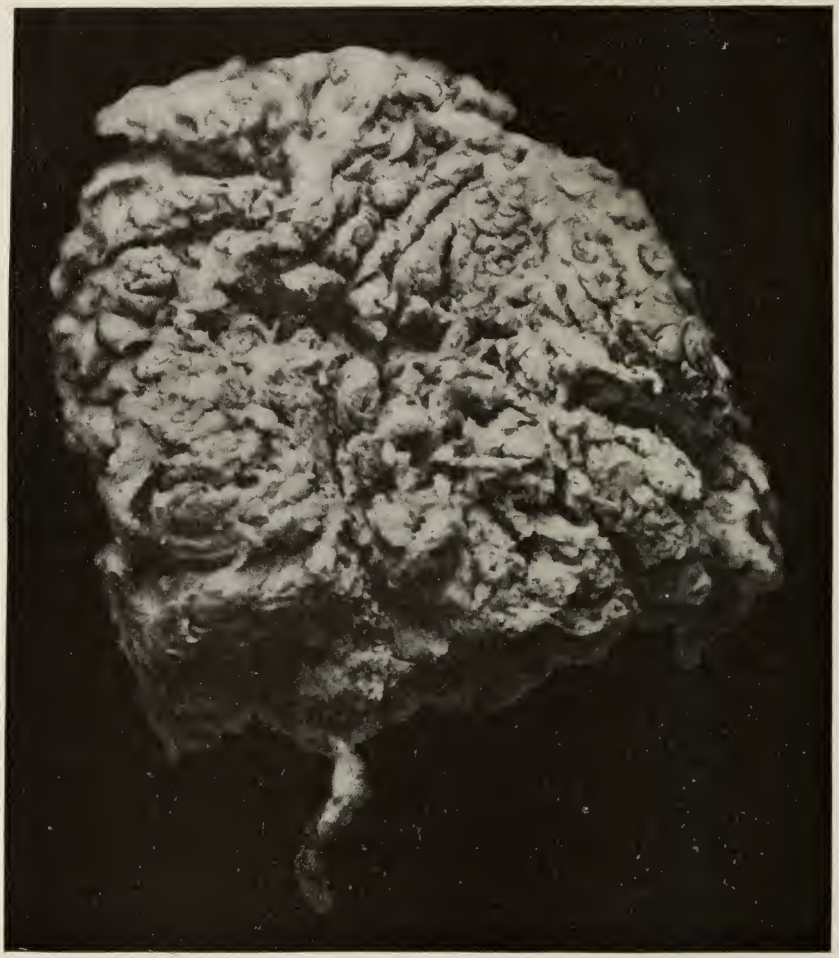
too largely based on museum specimens removed or even discovered post-mortem. With this apology, I beg to present to you the records of three unusual and yet in many respects characteristic cases of bladder tumor selected from among those that have come under my observation.

Case I.—Male, 60 years of age, operated March 29, 1896, with Dr. Charles M. Thomas, had been subject to attacks of hæmaturia for fifteen years. These lacked regularity or apparent exciting cause, although occasionally following the exertion of a shooting-tramp; one of the severest appeared during sleep. The hæmorrhages came on suddenly and ceased in like manner, the blood being bright red in character, and, when decreasing in quantity, being noticed particularly at the close of urination. For some time past there had been but little bleeding, and that at long intervals. Twelve years previously I had examined some shreds he had passed, which evidently came from a typical papilloma. The tufts were covered with a single layer of cylindrical epithelium and contained a capillary loop, supported by a delicate network of connective tissue. At no other time had any shreds been found. Except when the bladder was distended with blood, he had been free from pain throughout the course of the disease, and between hæmorhages was apparently in the best of health. The same was true of the frequency of urination. Repeated examinations of the urine showed no signs of cystitis or kidney mischief.

For a few days before I saw him he had been suffering from bleeding of varying degree, as on many previous occasions, but this became so profuse on the morning of operation as to fill the bladder with clots and produce retention. Attempts at evacuation by means of the catheter and syringe, the lithotrity pump and evacuator, were unavailing. The bladder was distended until it reached the umbilicus, and the condition was naturally associated with the characteristic straining and agonizing pain dependent upon such an unrelieved retention and distention. To make matters worse, he showed the effects of loss of blood to a striking degree: a most profound anæmia, air-hunger, cold extremities, pinched face, etc., etc,

Epicystotomy was at once done, and when the bladder was

emptied of clots a large cauliflower growth was found springing from its left-hand wall, in what Fenwick terms the "middle zone." (The accompanying photograph shows about the natural size of the tumor after two years' preservation in alco-



hol, but when spread out in the bladder, with its floating papillæ, it was nearly as large as my fist). Fortunately it was pedunculated, the pedicle resembling the last two phalanges of a finger, one side of which was attached to the bladder-wall and the other to the growth; in other words, its base can be

roughly stated as two inches by $\frac{3}{4}$ of an inch, and its length as a little less than an inch. It could thus be grasped almost in its entirety by an angular ovariotomy clamp, which was left in position, the oozing from the portion not included being controlled, after a thorough douching with hot water, by iodoform gauze, arranged like the *handkerchief pelvic-pack* of Miculicz. In this way the duration of the operation was so lessened that the patient was gotten to bed alive. Extensive or elaborate manipulations would, besides, have been impossible, for the operation was an emergency one, performed at dusk, in an improvised Trendelenburg position, with none of the indispensable accessories for such work.

The pack was removed on the second day on account of persistent vomiting, the clamp on the fourth, when the nausea disappeared, and an overlooked piece of gauze was expelled at the end of the first week. No tubes were used, but the bladder was irrigated several times daily through the urethra, which was unusually tolerant. The supra-pubic fistula did not completely close for two months, healing being delayed by incrustation of phosphates.

This phosphatic deposit in the supra-pubic fistula has been with me a frequent and annoying, or rather delaying, complication. In a number of epicystotomies, particularly in the presence of an alkaline, catarrhal urine, they have been almost as tenacious as the slough of a hot-water-bag burn. Applications of weak muriatic or nitric acid, or dilute bladder-washings with the same, have proved more satisfactory in my hands than anything else. In one stone case, not seen during the after-treatment, I was called some weeks later by the attendant to find and remove a large *præ-vesical* calculus; the inlying catheter had been allowed to slip out of the bladder, and the industrious washings had developed an enormous *cavum Retzii*, lined with phosphatic incrustations, and ultimately filled with a solid mass of the same character.

Since the healing of the supra-pubic wound he has enjoyed excellent health, the urine being free from albumin, pus, blood, epithelia, or casts, and the bladder emptying itself completely. The cicatrix is firm and close, showing no sign of giving away

at any point. Thirty months of freedom from all symptoms, objective and subjective, should give us a fairly safe prognosis against recurrence, and particularly against a malignant degeneration—a possibility sufficiently frequent to deserve consideration.

This case certainly presents the classical features of vesical papilloma. Nothing could be more characteristic than the repeated hæmorrhages, the first and practically only indication of cystic trouble during fifteen years; their onset and cessation, sudden and without apparent cause, and their recurrence and duration equally uncertain; the blood at times bright red and at others clotted, when scanty appearing at the end of urination, when profuse distending the bladder with clots and producing retention; the amount varying without any relation to the size of the growth, the severest hæmorrhages having occurred, the one quite early and the other just before removal. The pathognomonic symptom was, of course, found in the papillary tufts demonstrated by the microscope, and the importance of a most careful watch and the sieving of everything passed is shown by the fact that such evidence was found but once. Pain in such cases depends upon the development of a cystitis, as well as upon the proximity of the tumor to the vesical neck. Fortunately, this one sprang from the lateral middle zone, an unusual location, but with a cauliflower growth of such unusual size it is remarkable that portions of it did not press upon this region, or even obstruct the flow of urine. The absence of cystitis is surprising, as a bladder containing a tumor is peculiarly susceptible to infection, and catarrh is almost constant with large tumors. This freedom must be laid at the door of clean catheterism, which had much to do, therefore, with the unusually long existence of the disease and the prevention of a fatal issue.

Case II.—Female, single, 25 years old, patient of Dr. Cook, of Harrisburg; first seen May 27, 1895.

She presented the history and symptoms of a progressive and pronounced calculus cystitis, which had existed for about two years, and for which she had been under treatment for nearly half that time. Urination was so frequent as to be

practically constant, and, in fact, it was hard to get her off the *commode* long enough to take the history and symptoms. Pain, too, was a prominent symptom, not only local, but reflected, as is generally the case, to the back, hypogastrium, down the thighs, etc. It was worse, of course, after the expulsion of a few drops of urine, and was associated with the most violent tenesmus and straining. The bladder was tender, contracted, and so much thickened as to very naturally lead to a previous diagnosis of malignancy. From time to time she had passed calculous pieces and phosphatic *débris*, in connection with which she described a peculiar symptom: She felt something drop into the bladder, immediately after which there was an accession of pain, tenesmus, etc., lasting until one or several calculous bits were passed, a few minutes later. As we found out subsequently, this sensation must have been produced by the detachment of incrustations, not, as she supposed, by the dropping of foreign bodies into the bladder from the ureters. The urine was characteristic of an old cystitis, alkaline, and foul-smelling, containing triple phosphate crystals, pus-cells, a few blood corpuscles, and quantities of stringy mucus. Its constant contact with the external genitalia had produced a vulvitis, with discharge and inflammatory thickening. Hæmaturia had been an inconstant and only an early symptom, and at no time had amounted to more than a few drops of bright red blood or an occasional clot.

Under chloroform the urethra was dilated and the bladder explored with the finger. Five sessile tumors were felt, each one being covered with phosphatic incrustations, about the size of a dime, and raised about a quarter of an inch from the surface of the surrounding mucous membrane. They were located near the ureteral orifices, in the trigone close to the urethral opening, and the remaining two on the right side of the bladder, a little higher up. The walls were so hard and inelastic that there was practically no vesical cavity. The presence of the tumors was corroborated by the use of Kelly's cystoscope, and the attempt made through the tube to scrape off one of them with a sharp spoon. While the removal of the incrustation produced no bleeding, the cu-

retting of the growth caused such a severe hæmorrhage that we were obliged to desist.

Four days later the bladder was opened above the pubes by Trendelenburg's transverse incision, the patient being in the position suggested by the same surgeon. After the viscus was found the opening was enlarged by a vertical cut. The edges of the cystic wound were drawn up with guy-threads, and Fenwick's *caisson*, supplemented by Watson's speculum, proving unsatisfactory, the cavity was practically turned inside out by a finger in the vagina. This made it very easy to dissect off the growths, leisurely and accurately, with curved scissors and tissue-forceps. The resulting oozing was readily controlled by means of Keyes's *handkerchief* of iodoform gauze, packed full with strips of the same material, the former being drawn against the urethral orifice, with a string tied to its centre, and brought out through the meatus. A couple of days later the gauze-pack was removed and two syphoning-catheters introduced.

Recovery was naturally tedious, the cystitis gradually subsiding under the supra-pubic drainage, which was kept up for nearly four months, and under persistent bladder washings. All the symptoms disappeared, with the exception of the frequent urination, dependent upon the thick, unyielding vesical walls. After long-continued distention by flushing, this has finally yielded to such a degree that she wrote me a few days since, saying she could "go very comfortably six and often seven hours between urinations." In other respects her local and general condition is perfectly satisfactory, so that after more than three years we are warranted in assuming that there has been no recurrence, and that she is not only cured of her tumors, but of the consequent bladder catarrh and its cicatricial and contractile results. As is apt to be the case with the transverse incision, particularly when it has to be kept open for a long period of time, a small hernia has developed above the pubes, but it is readily controlled by a truss.

I was led to use this incision because the bladder was non-distensible, and because of Trendelenburg's success with it in vesico-vaginal fistula, a condition producing a similar vesical

contraction, and requiring unusually good access to the cystic cavity for its correction. The eversion of the mucous membrane by pressure from the vagina was of invaluable service, and I believe deserves a trial in such cases.

The tumors were sessile papillomata, with closely grouped but quite characteristic villi, and their homologous nature was readily appreciated, as they were trimmed off with the mucous membrane alone, showing no infiltration of the subjacent tissues. The hard, brawny bladder-wall was very suggestive of the induration supposed to be pathognomonic of cystic cancer. Had it not been for their distinct multiplicity, which points to papilloma, their sessile form and phosphatic coating would have strengthened the suspicion. The pain, too, while evidently dependent upon the cystitis, was far more severe than any I have seen with an ordinary catarrh, or even with stone. She was young for carcinoma, and, for that matter, even for papilloma; but sarcoma not infrequently occurs in the young as multiple, sessile or polypoid tumors, and the villous tendency of all bladder growths is familiar to every one. The practical absence of hæmaturia is noteworthy, particularly in papilloma, which, at some time during its course, is supposed to produce hæmorrhage much more persistent and free than either cystitis or calculus.

Case III.—Male; 69 years; under observation from April, 1893, until November, 1895. Consultants, Drs. Charles M. Thomas, W. C. Goodno, John E. James and J. Nicholas Mitchell.

The patient had noticed for some time gradually intensifying symptoms, which could be readily attributed to vesical calculus or to bladder catarrh associated with prostatic enlargement and irritation. He urinated with increasing frequency, both by day and night, but especially when moving about or driving. The uneasiness at the close of the act had gradually become a distressing "never-get-done" tenesmus. Pain was present at the same time, and was both local, over the pubes, in the hypogastrium, perinæum and rectum, and reflected to the back, meatus, scrotum, down the inner side of the thighs, etc. While felt all the time, it was particularly

aggravated by motion and at the close of urination. The associated tenderness of the perinæum necessitated the use of an air-cushion. The urinary stream was occasionally interrupted, and was thrown with diminished force. A couple of ounces of residual urine remaining in the bladder was found to be slightly alkaline, and showed the usual signs of beginning catarrh. Blood had been noted early, but in very small quantities and at the close of urination.

A careful sounding gave the characteristic stone click after considerable difficulty, and when the beak of the instrument was reversed, in what seemed to be the post-prostatic pouch, the manipulation being aided by rectal touch. The whole urethra was exquisitely tender, to a very unusual degree, in fact, and this, of course, was particularly the case when the deep portion was entered.

The stone was evidently small, but epicystotomy was decided on, because the perinæum was deep, the subject being corpulent, and because the lateral prostatic lobes were sufficiently enlarged to preclude satisfactory digital exploration. The high cut was accordingly made at one sitting, in the Trendelenburg position, aided by the Petersen bag (Braun's colpeurynter being used), together with moderate distention of the bladder with fluid and air.

A point noted in this case, which I have since made frequent use of, may be worthy of mention: in corpulent persons there is often a crease just above the pubes and groin which can be utilized by raising the pendulous abdomen to get *directly* at the bladder or even a hernia. I should also add that for several years I have dispensed with Petersen's rectal bag, and even with vesical distention with fluid, relying on what might be aptly termed "the Sim's position of the pelvis," supplanted, if necessary, by Dittel's inflation of the bladder with air. It may be needless to add that Senn's *two-tempo* epicystotomy is my routine practice, and this plan has stamped out the bugbear of urinary infiltration in the præ-vesical space—in fact, it has, so far, done away with any mortality.

On opening the bladder the lateral prostatic lobes were found to be moderately enlarged, while the trigonal depression

was but slight. What seemed to be a valvular middle lobe projected backward as a small tumor about the size of the terminal thumb phalanx. This flap, a little more pedunculated than those we so frequently have occasion to bite or trim off with such marked relief of obstructive symptoms, was enclosed in a perfect egg-shell of phosphatic salts. The shell broke readily and was as easily picked off as its contents and the pedicle, leaving a perfectly smooth interlobar surface.

While this was, strictly speaking, not a tumor of the bladder, springing in reality from the prostate, yet in its clinical signs and effects it was so clearly cystic that I have included the case and do not believe any distinction necessary. The histological examination of the growth was unsatisfactory, sections being submitted to several examiners whose opinions were widely at variance. Thus it was regarded by some as a middle-lobe hypertrophy, infiltrated with inflammatory cells, and by others as a round- and spindle-celled sarcoma.

The patient recovered without a hitch and was soon at his business again, quite free from any bladder symptoms. Some eighteen months later the urinary frequency, and particularly the pain, began to creep back again, and he gradually failed in health and lost weight. This went on through the winter of '94–'95 until the one prominent complaint was agonizing, almost constant pain, local and radiating, but pointing particularly to the bladder neck. Careful sounding found no stone, and the catheter drew but a couple of ounces of residual urine, which was only moderately catarrhal. Rectal examination showed some increased prostatic enlargement and a suspicious brawny hardness. This, with his age, naturally suggested carcinoma. Finally, two years after the first operation, the bladder was again opened through the old cicatrix, under cocaine, for relief of the urinary distress by drainage. Palpation of the vesical cavity was practically negative, the lateral prostatic lobes being rather more, but evenly and smoothly enlarged. The remaining six months of his life was pitiable, death resulting from exhaustion and pain—pain of every character and in every location: bladder, perinæum, scrotum, penis, back, limbs, chest, etc. At no time was there any further bleeding.

The autopsy showed round-celled sarcoma, confined entirely to the prostate; moderately enlarged, sarcomatous, iliac, abdominal and bronchial glands; and small, secondary deposits in the lungs, liver and kidneys. While there was some doubt as to the character of the trouble after the first operation, when the symptoms recurred the pain of malignancy was such as never to be forgotten by those who watched the case. This was particularly noticeable, as there was no cystitis, its common cause in bladder growths. It is unusual to find a sarcoma of such long standing confined strictly to the prostate, although cases have been recorded of probably even greater capsular distention. This is especially surprising when we remember that the first manifestation was a prostatic offshoot, the removal of which must have opened any overlying capsule. Such tumors spread, as a rule, by infiltrating the bladder-walls, urethra, etc., the peri-cystic tissues, even involving the pelvic bones, and finally disseminate themselves through the circulation. Instead of this the metastatic path was along the lymph-channels, as in carcinoma, and occasionally in round-celled sarcoma, notably in the breast. This course, together with the integrity of the capsule, may account for the slow glandular and visceral infection, no metastases of any size being found. Bladder carcinoma runs a typically slow and local course on account of the remarkable paucity of the lymphatic drainage. These vessels are more abundant and in closer proximity with the mucous membrane about the trigone, while the prostatic supply is even greater. In consequence, carcinomatous diffusion from the latter source is occasionally both rapid and widespread, but this seems to be more particularly the case with soft, so-called encephaloid growths which have first soaked through the capsule and infiltrated adjoining structures.

DISCUSSION.

Dr. C. P. Seip: We have had within the last few years, in our hospital here, a number of cases in which there was a hæmaturia. I found in many cases (and one is in the hospital at the present time) that phosphatic deposits in the high operations for stone become very annoying, and the cases that are

now at the hospital have given us so much trouble that it was intended to use, as Dr. Van Lennep suggested, a dilution of muriatic acid; but we gave this man lithia water, and in forty-eight hours every vestige of deposit had disappeared. It has been simpler in these cases, where we have high operations, to use what I would designate as the double-drainage system. From this man I removed a stone two and one-half inches in circumference a few weeks ago; he was suffering from what I supposed was cystitis. There was no difficulty in finding the stone; and, after the operation, which presented no unusual features (in the first case I did not employ a double drainage), I simply put a drainage tube in the abdomen, closed it up entirely, closed up the external wound, and in forty-eight hours had a beautiful case of urinary infiltration. I immediately opened the wound, and the man is now on the road to recovery. But I would like to suggest this: I believe that in all these cases of high operations for stone, where you have cystitis—and these phosphatic deposits after operation—there is no method that will give you better results than the passing of a tube through the suprapubic incision. You then have thorough drainage, you can wash it out without any difficulty, and your cases will get along well. I am sorry in this case I did not do it. I probably did not catch all that Dr. Van Lennep referred to as to the method of operating. We have in this hospital never employed anything else than the operation by two steps, making an incision to the bladder and then opening the bladder. I believe that is the method I saw once used in an operation while I was in Europe, some fifteen years ago, and I think it is one that is recommended by a number of leading surgeons in this country. It seems to me that we can profit by our failures, and it is by our mistakes that we can learn something more. If the method just mentioned had only been employed in the case in the hospital we would not have had all the trouble we have had in the past four weeks. A few weeks before we had another case come in here, a gentleman sixty-five years old suffering from retention of urine, and I endeavored to evacuate the bladder but failed. He was brought into the hospital. While the catheter passed through the urethra fully

eight and one-half inches, we decided on a suprapubic operation; it was the largest prostate gland that I ever encountered which came into view. For three weeks we kept the suprapubic wound open, but were unable to draw water through a catheter, and it was not until he left the hospital that we succeeded in getting the urine by the catheter. In that time—three weeks—I introduced my finger through the wound and the enlarged prostate came down to the normal size. I saw the man this morning and he is passing urine naturally, the wounds having healed. I think that some of our more courageous surgeons would have felt like attempting to remove that prostate gland. That method of drainage of the bladder is the best we can employ when we have laceration of the urethra. We all know the difficulty in curing or relieving the trouble that will arise from laceration. Two cases during the past few years here were unable to have a catheter introduced. In one case we attempted and succeeded in introducing a tube through the suprapubic incision and then passed a catheter into the bladder, retaining it for two or three weeks, and in that way we have succeeded in curing these cases.

Dr. Van Lennep's cases are very interesting, especially that of the papillomata. There has only been one case in the hospital of that character, and examination of the urine by the microscope showed the disease to be of that character, and that individual got well without any operation. A short time ago we had a case of a papillomatous cyst of the ovary. It was entirely impossible to remove this, and I had to make an incomplete ovariotomy. I removed, however, one of the papillomata, about a half inch long, and a microscopical examination of it decided that it was a papilloma.

Six weeks afterward that woman had entirely recovered, and it has now been eighteen months since, with no return of any of the papillomata remaining, though I fear the time is too short and there may be a return of that difficulty.

Dr. Edward Cranch: I would like to report a case of papilloma of the bladder which was not operated, but which recovered. The only trouble that she had was occasional hæmorrhages. The outline of the tumor was well made out. The

remedy used was cantharis 200. She had very little trouble with hæmorrhages, but sometimes they were severe. Another case was that of a man with a very large, probably malignant, growth of the prostate, which had increased to an enormous size; it must have been four inches wide and six inches long. Sometimes he could draw the urine and sometimes used an aspirator.

Dr. G. M. Christine: In respect to the remarks of Dr. Seip, I would say that, just as we find rectal troubles frequently remedy themselves or are amenable to treatment by the operation of colostomy, so, frequently, in enlarged prostate and other forms of bladder irritation, we find that the rest given to these inflammations by suprapubic cystotomy produces a reduction in their size, and in some instances an apparent cure. I have seen that happen frequently. For instance, in enlarged prostate, White's operation is better supplemented by cystotomy as it gives the bladder proper rest and secures proper drainage, finding as a result reduction and sometimes a cure.

HEAD INJURIES.

CARL V. VISCHER, M.D., PHILADELPHIA.

The presentation of this paper is prompted by the not sufficiently recognized importance of giving particular attention to all injuries of the head, as oftentimes traumatisms which are apparently of the most insignificant character, on careful investigation prove to be of the most serious import, if not directly, at least indirectly, so far as subsequent changes are concerned, which, if not leading to a lethal termination, greatly affect the future health of the individual.

The head is as much exposed to accident as any other portion of the body; hence, injuries here are of common occurrence. The skull, by reason of its anatomical conformation, deflects the force of many ordinary blows. Early in life, before complete ossification of the bones and sutures occurs, the

cranium is exceedingly elastic. This, together with the fact that it is formed on the principle of an arch (consisting really of a series of arches, or a dome), also makes it less liable to suffer from extrinsic force. After ossification has taken place, we find considerable motion still to exist at the lines of suture, and which persists to varying degrees in different individuals until late in life. The fact that the bones are composed of three plates, together with air spaces at several points, also increases their resiliency, so that a fully-developed skull possesses not a little elasticity. We furthermore know that certain portions of the skull are decidedly thicker than others; and it is a peculiar fact that this additional protection exists particularly at those points most exposed to trauma.

Notwithstanding the above stated facts, we now realize that fractures of these bones occur with much greater frequency than was once supposed; hence the importance of always suspecting such to be the case until events prove otherwise. Once again the credit falls to the present technique of operative interference, which no longer makes us dread a wounded scalp, but, on the other hand, permits of the most liberal exploration of the entire skull surface; and we may go a step farther by adding, largely of its cavity.

In looking over the text-books of but a few years back, we find a list of stereotyped symptoms given as characteristic of skull fracture, and these are generally sharply defined from a similar list due to so-called "cerebral concussion," operative interference being only counseled where the former are present and strictly contraindicated in the presence of the latter. It is the lasting impression of these signs, such as unconsciousness, changed pupils, and a condition rapidly approaching the moribund, which to-day we know are so often absent or late in their appearance, that leads many of us to overlook entirely the possibility of fracture.

These differential guides, thus formally regarded as of so much significance, in the light of more recent research (especially that of Ferrier, Monk, Horsely and others in cerebral topography), are to be utterly disregarded. These symptoms, once considered so characteristic, are seldom present, save in

extensive lesions, and not always then. We now know that the symptoms will vary: first, according to the region involved; second, according to the amount of hæmorrhage and laceration of the cranial contents; and even these are but general guides, inasmuch as we frequently find extensive fractures without commensurate cerebral manifestations.

This being true, it will be readily appreciated what care should be exercised in all cases of head injury, as only too often the lesion is not recognized until late, when such symptoms as above mentioned present themselves, and when the golden opportunity has probably passed beyond reach.

From the present state of knowledge of cerebral pathology it is, to the mind of the writer, much the safer principle to suspect some lesion of the skull until absolute evidence to the contrary is at hand; and if such is not the case the patient should have the benefit of the doubt, and the skull be freely explored. Particularly is this advisable, as no potent reason exists for not doing so, the operation, *per se*, being no argument to the contrary.

As to the technique of the operation, little need be said. If a wound exists, it is to be sufficiently enlarged to permit of careful exploration of the neighboring surface. In cases of no wound, oftentimes a hæmatoma is found, and this may present such evidence as to make the examiner feel confident of the presence of a fracture, yet on incising it will be found to be nothing save blood extravasation beneath the aponeurosis of the occipito frontalis. These hæmatomata are at times most confounding; still, a simple incision solves the problem, and in case of no fracture the first step of good surgical treatment for extravasation of blood has been instituted. Where no external manifestation of injury exists, there are usually present some subjective symptoms, such as pain; or, in case of internal bleeding, some localizing sign will be found.

During the past few years it has fallen to the lot of the writer (in hospital and private practice) to meet some fifty cases of skull fracture, from which the following are taken as illustrative of the above argument.

Case I.—C. W., aged 45 years. On the evening of May 18, 1896, was thrown from a wagon, striking on his head. He was picked up in a dazed condition and taken to his home, by which time the shock of the accident had, for the most part, passed off, when attention was given particulary to a few bruises about the left shoulder and hand. He complained greatly of headache, which did not subside under the remedies given. Less than twenty-four hours after the accident the pains in the head became aggravated to such an extent as to lead to a second examination; the first, shortly after the reception of the injury, proved negative. At this time some swelling was discovered over the left temporal region, and a slight skin abrasion on the frontal eminence of the same side. The patient was beginning to show some drowsiness; would speak only after being called in a loud tone of voice. Otherwise, however, no special symptoms, the mind being perfectly clear.

Suspecting some intracranial lesion, we were asked to see the case some thirty-six hours after the accident, and found him perfectly conscious and rational, complaining of nothing save headache. It was observed, however, that there was a tendency toward drowsiness. Pulse was slow and full, temperature normal, as was pupillary reaction; no paralysis nor gastric symptoms; knee-jerks slightly exaggerated, especially upon the right side. Examination of the head revealed abrasions of forehead and an induration which had gradually become more marked since the accident. Exploratory incision was advised, which was immediately done, revealing an extensive comminution of the squamous portion of the temporal and of the parietal, also a linear fracture of the frontal bones, the latter extending around to the opposite side, a distance of not less than eight inches. After removal of the fragments and the depressed frontal bone, the wound was treated in the usual manner, and the patient made a rapid recovery.

Case II.—A. J., aged 27 years. On the 6th of June, 1898, made a misstep, falling down a flight of fifteen carpeted steps, striking his head on the hall floor, which also was heavily carpeted. He got up complaining of severe pain at the site of injury. Owing to some little shock he retired at once. The following morning, the headache not having abated, but rather increased, a physician was summoned, who prescribed hot compresses. His condition not having improved by evening, I was asked to see the case, and found him suffering from severe hemicrania on the left side, which had persisted since the accident, and was informed that he had vomited immediately after the injury. Attendants had noticed some slight

rambling in his conversation during the previous two hours. The face was flushed, conjunctivæ somewhat injected, pupils rather sluggish in reaction, patellar reflexes exaggerated; no evidence of paralysis, a slight abrasion on the left side of forehead, frontal and temporal regions swollen but no bogginess. Pulse and temperature normal. Recommended exploration, which was done at the St. Luke's Hospital, disclosing a depressed fracture extending from the external angular process of the frontal bone, backward and upward, for a distance of four inches. A button of bone was removed and the depression relieved, when it was found that the dura also was lacerated. This was united and the wound closed except at its most dependent point, where a drain of iodoform gauze was introduced. The patient made an uneventful recovery.

Case III.—E. F., aged 60 years. While coming down a flight of stairs slipped and fell, sustaining a slight laceration of the scalp. She was picked up in an unconscious condition, from which she soon recovered, after which the scalp wound was united by several interrupted sutures. She progressed apparently well until some sixty hours after the accident, when she again lost consciousness. We now saw the patient for the first time, presenting a typical picture of brain compression. She was removed to the St. Luke's Hospital, where the skull was exposed, showing a marked depressed fracture. This was relieved, but unfortunately too late to prove of any permanent avail, the patient rallying for a few hours, after which coma again developed, in which she gradually passed away.

Case IV.—A. O. V., aged 45 years. While working on a roof made a misstep, falling to the ground, a distance of about twelve feet. Was taken up and removed to his home in an unconscious condition, but soon regained consciousness, and to all appearance was doing well until during the evening, when he was suddenly taken with a convulsion, followed by projectile vomiting and some bleeding from the left ear.

We saw the patient the following morning, and could learn little or nothing as to the particulars of the spasm; examination, however, showed quite a large hæmatoma situated about the left temporo-frontal region. Fracture was, of course, suspected, and the patient advised accordingly. He was admitted to the St. Luke's Hospital, where the skull was exposed at the site of the injury, demonstrating a linear fracture some five inches in length; the trephine was applied, when a large extra-dural clot was disclosed. The operation was completed in the usual manner, the patient making an uneventful recovery.

Case V.—P. B., aged 4 months. Father was carrying child

while walking along a board path, when he stepped on a loose board, and, losing his balance, fell over an embankment some five feet high. Fearing lest he would fall upon the child, he let it go, when it struck the ground, probably head first. It was stunned a few moments, after which it had a "crying-spell," which was followed by an exceedingly fretful condition.

For fear that it had sustained some serious internal lesion, it was referred to me, when we found some œdema of the entire posterior and left half of the head. An exploration of the skull was made, disclosing a linear fracture seven inches long, but no apparent depression. The line of fracture, however, was widened by operation, doing away with any possibility of compression. The child rapidly regained its normal state of health.

Case VI.—W. W., aged 14 years. At the age of 8 months he fell, striking his head against the kitchen range. He was seemingly well for twelve hours afterward, when he became drowsy and had a series of left-sided convulsions, continuing for several hours, followed by coma, from which he woke up with left-sided hemiplegia. During the week following convulsions frequently threatened in the paralyzed limbs, but did not develop. The hemiplegia persisted for a month, and then partially cleared up. At intervals of three or four months thereafter he would have convulsions similar to the first, with the subsequent paresis of the left side. Of late these have been more frequent, momentary in their duration, and with no paralysis following. With this are attacks of the *petit mal.*

Localization by my colleague, Dr. Bayley, indicated that the face centre was the principal seat of injury. At surgical exploration there was found an irregular thickening of the skull, to which the dura was adherent, and with positive evidence of former fracture. This, it will be recollected, was more than thirteen years after the accident occurred, which was early in infancy. This case was operated more than two years ago. The boy is at present in perfect health, and has had but three convulsions during the interval, each of which was provoked by over-indulgence in bananas.

This series of cases has been selected to represent the types clinically met with: First, Those with entire absence of scalp injury; Second, Those with a slight wound accompanying a badly-depressed break; Third, Remote effects due to brain changes secondary to unrecognized fractures.

These are but a few of many instances that could be men-

tioned. They suffice, however, to show the dangers, both direct and remote, of the character of injuries under discussion, and justify, we believe, the following conclusions:

1. That fracture of the skull is more common than it was once believed to be.

2. It not infrequently results from comparatively slight injuries.

3. Oftentimes the fracture is out of all proportion to the external injury, which may be so slight as to almost escape detection.

4. A wound is not at all essential to the existence of a fracture.

5. Symptoms of brain pressure may not develop until many hours after reception of the injury.

6. The presence of a fracture should be suspected in every instance until the opposite is proven.

7. And for this reason an exploration of the skull should be made in all such cases.

SODIUM BICARBONATE SOLUTION AS A SURGICAL DRESSING.

B. K. WILBUR, M.D., SITKA, ALASKA.

Just as the most of life is made up of little events, so the majority of cases coming to every physician and surgeon are those of the minor ills. To relieve these quickly and well is a large part of our professional work; and among these minor ills none is more common, nor, for the size of its lesion, causes more real agony, than the abscess.

It would be but to multiply words to speak of the etiology, pathology and treatment in general of this disease. Those of us who have handled the knife must honestly confess a considerable degree of skepticism in medical treatment. In earlier days, as we came forth from college, we gave the potencies of belladonna, pulsatilla and hepar, and also the crude drugs, yet we find the knife the best of all remedies. Perhaps

some do cure a sac containing 30 c.c. of pus with these or other remedies, but *we* do not.

The filthy poultice, that incubator for bacteria, with its rotting effect on diseased and well tissues, we condemn. True, it affords some relief, but the knife affords greater. Those of us who have seen a case of felon, sent to us by some well-meaning but deluded confrère after three or four weeks of bread-poulticing and flaxseed maceration, will scarcely listen to the advocates of this instrument of prolonged torture. With early free incision we are familiar; nor are we apt to forget the apparent paradox, the freer the incision the quicker the healing.

It is to the treatment of abscess *following* operative measures that I desire to call your attention, and to that end I append a few illustrative cases. Once freely incised, drained thoroughly and dressed antiseptically, healing usually progresses with a remarkable degree of rapidity. But a certain class of cases, and by no means a small proportion, do not granulate rapidly or kindly. In spite of free openings and apparently perfect drainage, suppuration continues. Bichloride of mercury, carbolic acid, hydrozone, iodoform, or any of the old faithfuls, do not check the process, nor do the tissues react. In short, the process of repair is lazy and more or less pain persists. In such cases especially, and, indeed, since I have tried it, in every case of abscess following incision, a 2 per cent. solution of sodium bicarbonate has proven most excellent.

A short article in the *Medical and Surgical Reporter* of Philadelphia first directed my attention to this chemical as a dressing in phlegmonous inflammations, it being recommended by a Russian army surgeon. It is best applied as follows: After free incision, with ordinary antiseptic precautions, the wound is lightly packed and covered with plain gauze saturated with a 2 per cent. solution of sodium bicarbonate. Over this cotton is placed, and the whole covered by oiled muslin. This oiled muslin is used to prevent evaporation, and is not to retain heat especially; and, contrary to most impervious dressings, there seems to be but slight tendency to rot or macerate the tissues. The dressing is changed at varying intervals, accord-

ing to the amount of discharge; but it should be remembered that with this application fewer dressings are required. The results are remarkable in the rapid subsidence of suppuration, and the bright, firm granulations that rapidly close the wounds. From this description the process of cure seems to be attained so quickly and smoothly that one might readily doubt its verification. It is not theoretical, however, for a series of cases have yielded uniformly good results, as the three selected ones following will illustrate.

John N., æt. 5 years, acute abscess of hand at base of third finger; pain, redness and swelling of palm and dorsal surface, as well as of all of third finger and bases of other fingers; incision, with evacuation of 5 c.c. of pus. Applied sodium bicarb., as above. Swelling disappeared within twenty-four hours; complete healing in eight days under three dressings. This is cited as a typical case, though the healing is even more rapid in some.

The second case is typical of the infected wound class, with extending inflammation of adjoining tissues.

No. 2. Fred M., æt. 23. Small scratch on third finger of left hand; infected a week after patient received it; redness of lymphatics; swelling of arm and forearm to twice their normal size; exploratory incision of arm and forearm, and sloughs trimmed away from wound of finger; no pus. Dressed entire arm with sodium bicarbonate. Pain, redness and swelling rapidly subsided and infected wound healed.

In the next case the sod. bicarb. was used experimentally, to observe its effect in allaying inflammation of the skin from any cause and where pus was not present.

No. 3. Mrs. C., æt. 58. Contusion on external surface of leg, half-way between knee and ankle, caused by a hard blow. Much pain and redness, with great tenderness, persisting for a month. Bichloride compress, arnica lotion, liniment of soap, anodyne liniment was tried unsuccessfully. The first application of sodium bicarb. on gauze under cotton and oiled muslin, as previously referred to, markedly reduced all inflammatory symptoms, and its continued use for a week returned the parts to their normal condition, except as to tender-

ness and partial loss of function, which persisted some time longer.

These three selected cases, being verified by others, stand as types of three important uses of this solution. To review in brief:

Sodium bicarbonate in a 2 per cent. solution on plain gauze is an ideal dressing for acute abscesses that have been drained.

In cellulitis and phlegmonous inflammations of any character its effect is prompt in affording relief and subduing inflammation.

In any active, superficial inflammation from any cause, recent or remote, it may be used advantageously.

It has also proven valuable as a local stimulant in lazy ulcerations or sinuses.

In closing, these marked actions on the skin and cellular tissues suggest the possibilities of this solution in erysipelas—a possibility so full of hope that it is well worth the trial.

REPORT OF THE SECTION OF SANITARY SCIENCE.

The Air We Breathe, by W. J. Martin, M.D.
Formaldehyde; Its Practical Value as a Disinfectant, by R. T. White, M.D.

THE AIR WE BREATHE.

W. J. MARTIN, M.D., PITTSBURG.

It is a well-recognized fact that our health is seriously influenced for good or for evil by the character of the air we breathe, the water we drink, and the food we eat. There is, however, I think, an exaggerated importance attached by great numbers of people to the injurious effects of impure water. It is the fashion to ascribe almost every indisposition to the condition of the water-supply. It would seem to me to be as desirable to know the composition of the air we breathe as of the water we drink. Indeed, it is more important to attend to the cleanliness of a medium in which we are always bathed, and which is continually passing into and out of our bodies, than of that which is only occasionally, and by some persons very rarely, introduced into the stomach, an organ which contains fluids possessing certain antiseptic and destructive power over substances injurious to health. The insidious and indistinctly recognizable deleterious effect on the health of a continued exposure to impure air is often more marked than from the use of impure water. The train of evils is so slowly but surely and yet so insidiously laid as to often escape the observation of the experienced physician, who sees, in a case of blood deterioration by impure air, one of imperfect or defective assimilation, anæmia, dyspepsia or hysteria. Contrast a representative of the rebreathed and otherwise vitiated air trades or occupations, who rarely sees the sun, by the side of one whose daily occupa-

tion gives him the fullest benefit of the purest air and the freest exposure to solar light. Bookbinders, or factory-girls or coal-miners, neither of whom are exposed to any distinctly poisonous influences, may, for example, be compared with sailors. The former are pallid, jaded, sallow, afraid of fresh air, with uncertain and capricious appetites, and the normal functions of the body liable to continual disturbance, whilst the sailor presents the appearance indicative of the highest degree of health and buoyancy of spirits, well known to all.

The purest air is to be found at sea, on mountains, and in locations far away from all contaminating and polluting agencies, such as aggregations of men and animals, factories, etc.

The air is deteriorated in quality and defiled by (1) Respiration and transpiration. (2) Combustion. (3) Putrefactive processes, sewer emanations and excremental filth. (4) Gases, vapors, and suspended metallic, mineral and vegetable matters given off by trades and manufactories. (5) Poisons evolved by damp and filthy soil.

The changes that take place in pure air that has been respired are, that 100 parts contain only 13 instead of 21 parts of oxygen, the missing 8 parts having been withdrawn by the blood-corpuscles in the lungs. The .03 per cent. of carbonic acid is increased to between 4 and 5 per cent., and an increase of watery vapor which is loaded with organic matters. This organic matter is thrown off from the lungs in respiration, and from the skin by transpiration, in a state of invisible vapor or epithelial dust; it decomposes and gives off various volatile nitrogenous compounds which, if they do not themselves produce disease, undoubtedly lessen the power of the body to resist disease. As many diseases propagate themselves by eliminating their poisons through the exhalations and excretions of the body, air thus polluted is often the bearer of the organic poisons by which disease is disseminated.

Physicians who enter the dwellings of the poor, in crowded courts and alleys, are familiar with the fœtid emanations that abound in these unwholesome habitations. The peculiar sickening odor of organic matter is especially noticed in crowds of the great unwashed, and creates often, in those unaccustomed to such smells, a feeling of faintness.

As the result of combustion the air is continually polluted by enormous quantities of smoke daily and hourly poured forth by our cities, but through the agency of wind-currents, storms, rains and snows, this vast sea of smoke is but slightly harmful to health. Carbonic oxide is another product of combustion and a most poisonous one, and is found in the air of towns, but is so dilute as to do but slight injury.

Rain dissipates the deleterious gases which accumulate and float over towns and cities. It brings down from the higher regions of the atmosphere a more salubrious air, and by the flushing of drains and sewers and cleansing of the surface aids in preventing the contamination of the air by the exhalations of animals, and by the decomposition of animal and vegetable matter, which is going on unceasingly.

Sewer-gas is one of the media for the conveyance of the poisons of the "filth diseases," and of all the "filth diseases," typhoid fever may probably be considered the very type and quintessence. Sewer-gas is poor in oxygen and rich in carbonic acid, and, besides, contains hydrogen sulphide, ammonium sulphide, and carburetted hydrogen. Sewage and cesspool effluvia are well known to be injurious to the health of animal and vegetable life, even when mixed in small quantities with the air.

The air is vitiated and poisoned by bisulphide of carbon from India-rubber works; chlorine, sulphurous and sulphuric acids from bleaching-works. The hydrochloric-acid gas from alkali works, the arsenical vapors from copper smelting-works and the hydrofluoric acid from superphosphate manufactories injure animal and vegetable life, sometimes destroying all vegetation for miles around. The air is also vitiated by vapors from glue factories, bone-burning establishments, slaughter-houses; and in Pittsburg we have an institution called the "garbage furnace" which can pollute the air with the vilest stenches that ever greeted nostrils, and, being located on the bank of the beautiful Monongahela River, does service in polluting the placid waters of that historic stream.

Animal, vegetable and metallic matters suspended in the air are the cause of an immense amount of suffering. A few of

the occupations and trades which suffer this way are metal-miners and coal-miners, potters, knife-grinders, millers, snuff-grinders, button-makers, pin-pointers, cotton-, wool- and silk-spinners; workers in flax-factories, cotton-weavers, makers of sand-paper and of Portland cement. Apart from the injury to health from inhaling dust of various kinds, the circumstances which attend the performance of these injurious labors are in many cases highly deleterious. The hot, stuffy, damp and re-breathed air in which large numbers of these laborers, both male and female—some of very tender age—are bathed, during their hours of labor, is enough in itself to predispose strongly to the development of disease.

Some metallic dust to which workmen are exposed is poisonous. Lead-miners, type-founders, glazed-card manufacturers, workers in white lead factories, and some plumbers and painters suffer from lead-poisoning. Workers in brass suffer from copper-poisoning, and workers in mercury from mercurial-poisoning. Workmen and women who make arsenical wall-papers, pigments and artificial flowers suffer from inhaling the poisonous dust of some arsenical compound. Many persons, too, who do not gain a living by paper or flower making, but adorn the walls of their rooms with papers of gorgeous hues, also suffer arsenic-poisoning. The air breathed by those who are not engaged in any of these unwholesome avocations is full of dust—a heterogeneous mixture of particles of organic and inorganic origin. It may well be said, "Surely this dust that we all breathe must be hurtful." There is no doubt but that the less of it we have the better for us; but if people will admit an abundance of Nature's great disinfectant, *pure, fresh air*, into their houses, and at the same time keep themselves and their houses clean, they will not be seriously injured by the dust of the air.

The air is polluted by emanations from ground having damp and filthy sub-soil and from swamps or marshes. It has been proven that the death-rate of consumption is considerably diminished by drying the sub-soil by means of proper drainage. Emanations from filthy soil produce diarrhœa. The impression that the atmosphere ends where the ground begins is a delu-

sion. Most soil is more or less porous. A house built on a gravelly soil stands on a foundation composed of a mixture of two parts of small stones and one part of air. The air may give place to any gas or to water. Remembering the force with which the wind often strikes the surface of the ground, with a pressure, during a hurricane, amounting from 36 to 50 pounds on every square foot, it cannot be a matter of surprise that foul and pestiferous air from the filthy earth beneath and close to our habitations should be introduced into them by this driving force. The air of marshes and swamps contains a large excess of carbonic acid and organic matter, as well as carburetted and phosphoretted hydrogen gases. The evidence which at present exists as to the presence of a bacillus malaria in the air of marshes where ague abounds, and as to its existence in the blood of those suffering from the disease, is, I think, insufficient and unconvincing.

It is not necessary to further enlarge upon the blessings of pure air and the evils resulting from the inhalation of a vitiated atmosphere. In closing, it may be said that offensive smells, the products of putrefaction, are not only injurious in themselves, but serve as danger-signals, bidding men to beware. By acting as depressants, and as reducers of bodily vigor, they tend to make the system more prone to be attacked by disease. As the smell of gas in the house warns us of the presence of a body dangerous when diffused through it, so an offensive smell is the signal of the possibility of the presence of the poison of a disease.

A stench may or may not be associated with a disease poison, and no one knows when it is and when it is not thus accompanied. As a means of warning to those exposed, an offensive smell is useful, but we must remember that agents which destroy the stink of filth (agents called deodorizers) may yet leave all its powers of disease production undiminished. Disease poisons or ferments, although not always in the companionship of stinks, are usually, and it behooves every one to remove the cause of the stinks and prevent their recurrence.

Dr. Richardson, the well-known English author, says on this subject, in his *Diseases of Modern Life*, "It is this devitalized

air in our over-crowded towns and cities, where there is no vegetation to revivify it, which we distinguish as something so different from the fresh country air that streams over forest and meadow. It is the breathing of this air that makes the child of the close town so pale and lax and feeble, as compared with the child of the country. It is this air that renders the atmosphere of the over-crowded hospital so deficient in sustaining power. It is this air that gives to many of our public institutions, in which large numbers of our poorer, ill-clad, uncleansed masses are herded together, "that bad smell," as it is called, which is so depressing both to the senses and the animal powers.

In many private houses—houses even of the well-to-do and wealthy—streams of devitalized air are nursed with the utmost care. There is the lumber-room of the house in which all kinds of incongruous things are huddled away and excluded from light and fresh air. There are dark under-stairs closets, in which cast-off clothes, charged with organic *débris* of the body, are let rest for days, or even weeks, together. There are bed-rooms overstocked with furniture, the floors covered with heavy carpets, in which are collected pounds upon pounds of organic dust. There are dressing-rooms, in which are stowed away old shoes, and well-packed drawers of well-worn clothing. There are dining-rooms in which the odor of the latest meal is never absent. There are drawing-rooms in which the scent of decayed roses, or of the varnish from the furniture, or of the dye from the table-covers, is always present. There are kitchens in which there is the odorous indication of perpetual cooking. In not a few human habitations the process of devitalization of the air is effected by the presence in them of the lower forms of life. "Household pets," so called, such as dogs, cats, tame mice, birds, squirrels, etc., kept in such numbers that the odors of the animals are perceptible and disgusting.

While it is true that the human body, by a sort of acclimatization, can adapt itself to wondrously different circumstances, although a certain injury is received by so doing, it never reaches the period of old age if continually bathed in impure air, although that air may have long ago ceased to offend the

olfactory nerves. The comparative freedom of the sewer men of Paris from cholera and other zymotic diseases, the absence of any marked injury to health during the year that the Thames River was so odoriferous, and to any excess of zymotic diseases in the neighborhood of Montfaucon, in Paris, where much of the filth of the city is stored preparatory to its conversion into manure for agricultural purposes, are mentioned by those who have advanced the opinion that a constant exposure to morbific ferments or contagia diminishes the risk of being injured by them. It is a well-established rule, however, notwithstanding the existence of certain supposed exceptions, that there is a greater mortality amongst those who are exposed continually to impure air than with those who are not so circumstanced, and that the diseases from which the former class suffer are of an asthenic type, tending to death rather than to recovery.

DISCUSSION.

Dr. W. K. Ingersoll: I have an interesting case that I would like to present, showing the influence of vitiated air. I believe some experiments were made some time ago, in reference to what we know as carbon monoxide, that were sufficient to show its poisonous character. One-half of 1 per cent. is sufficient to kill a mouse in a bell-glass in a half hour, showing to what an extent a small amount of this gas, which is altogether without odor, may be poisonous.

Last winter or winter before last I saw a child who had had two spasms. I was called in and found the child in spasms; there was no variation in the pulse-rate nor any rise of temperature. The child upon coming out of the spasm seemed to be fairly well. There was no irritability or rigidity; the spasms would be irregular, sometimes on one side and sometimes on another; the face was bluish-white and the lips purple. I could not exactly understand what was the cause of this. I thought perhaps it was a case of epilepsy, in which the child might go on with the epileptic seizures, as they seemed to be. The child frothed a little at the mouth, but got better that day. I saw it the day after that and for several days afterward, when I was incidentally told that another child had brought a balloon

into the room, and that when it let go of the string the balloon would not go up to the ceiling in that part of the room where the bed was. I investigated, and sure enough it would not go within three feet of the ceiling in that particular corner of the room where the baby's crib was; anywhere else the balloon would go right to the ceiling. There was a door diagonally across from a window, leaving a part of the room, where the baby's crib was, where free ventilation could not occur. Over and to one side of the baby's crib was one of those arrangements to place on top of a gas-burner that are sold at a very moderate price for heating water, etc. My idea was that the heating arrangement was defective, that there was an escape of carbon monoxide, which was absolutely odorless. There was just that amount of escape of gas that was only partly burned, because in combustion you have first the carbon monoxide, and then the combustion of gas into carbon dioxide in the incandescence of the flame. I took that off, told them not to use it, but to use an arrangement with alcohol to heat the baby's milk, and the child never had a spasm afterward. It had had one spasm, and then I think for seven days had had two spasms, and two weeks from that had had eight spasms.

FORMALDEHYDE—ITS PRACTICAL VALUE AS A DISINFECTANT.

ROLAND T. WHITE, M.D., ALLEGHENY.

Since the discovery of the valuable germicidal properties of formic acid and its derivatives, especially formaldehyde (CH_2O), many elaborate and ingenious methods have been devised for its use as a disinfectant.

The *sine qua non* of an ideal disinfectant would seem to be, first, to obtain the highest degree of efficiency; and, second, that in its application the method may be thoroughly practical and economical.

These requirements are largely fulfilled by formaldehyde.

The earlier experiments with formaldehyde were mostly along the line of generating the active formic aldehyde gas in volume sufficient to give the necessary percentage to an atmosphere to destroy micro-organisms by the oxidation of methylic alcohol, usually termed the retarded-combustion method.

Although a seemingly practical and economical procedure, its utility was soon brought into question by the uncertainty of control as to the amount of alcohol consumed and the volume of formic aldehyde set free; and as, up to the present time, no apparatus has been perfected which will overcome these difficulties, the retarded-combustion process has largely been discarded. Pariform pastilles or polymerized formaldehyde do not seem to readily part with their original percentage of formic aldehyde, and necessarily increase the expense of disinfection with this agent, holding no advantage over the aqueous preparations.

Dr. Novy, in a recent contribution to the *Medical News*, gives the comparative germicidal powers of sulphur and formaldehyde as disinfectants in a series of elaborate and painstaking experiments, demonstrating conclusively the superiority and practical utility of formaldehyde.

A closed vessel, heated by a Bunsen burner, with a long extension spout connected with the top and of a calibre small enough to pass through an ordinary keyhole, comprised his generator. This apparatus has the important advantage of being operated outside the room to be disinfected. An apparatus similar to Dr. Novy's has been adopted by the bacteriological department of Allegheny, and the satisfaction it has given both in practical use and numerous crucial experiments leads me to direct your attention to this effective method of disinfection. The apparatus consists of a vessel made of heavy copper-brazed seams, thirty-five ounces capacity, a cone-shaped spout from the top, an alcohol stove being used to volatilize the formalin. Five fluid ounces of commercial formalin (40 per cent.) is required for each 1000 cubic feet of space. Dr. Burns, city bacteriologist, has made numerous experiments with this method, demonstrating with reasonable certainty the rapid and effective sterilizing of a variety of contagions, among them diphtheria,

tubercular bacillus, streptococcus pyogenes, etc. A brief description of an epidemic of diphtheria during the past winter may prove instructive, illustrating not only the value of thorough disinfection but also the importance of a careful search after origin and cause in epidemic diseases.

In a circumscribed section of the city of Allegheny diphtheria suddenly became alarmingly prevalent—very few cases being reported at the time from other portions. Reports of new cases continued to come in rapidly in the face of quarantine and house disinfection where the cases existed.

Suspicion was finally directed to the local school building, the school was closed, and the building thoroughly disinfected by the formaldehyde process, which immediately stopped the spread of the contagion, only one case thereafter developing.

Personal observation and a variety of experiments during the past five years lead me to a positive belief in the superiority of formaldehyde as a germicide over sulphur, with its pungent sulphurous acid fumes.

A small quantity of borax should always be added to the formalin to prevent polymerizing during evaporation; and the usual careful technique in sealing the room to be disinfected, spraying walls, moistening materials generally to be acted upon, suspending blankets, linen and clothing upon lines, etc., must always be carried out carefully. All fabrics to be acted upon must be moist, as a valuable agent may prove inadequate if carelessly or indifferently applied.

REPORT OF THE SECTION OF CLINICAL MEDICINE.

Pain, by I. B. Gilbert, M.D.
Complications of Typhoid Fever, by Anna C. Clarke, M.D.
Serum Therapy, by A. B. Lichtenwalner, M.D.
A Case of Fatal Peritonitis, by E. C. Parsons, M.D.
The Bad Nauheim (Schott) Treatment of Heart Disease at Home, by E. R. Snader, M.D.
Carbuncle, by Pearl Starr, M.D.
Report of a Case of Muscular Dystrophy, by E. H. Van Deusen, M.D.
The Sanatory Treatment of Melancholia and Neurasthenia, by Robert Walter, M.D.

PAIN.

I. B. GILBERT, M.D., PHILADELPHIA.

PAIN as a factor of disease is the most distressing with which we have to deal. Hare, in his *Practical Diagnosis*, says: "We should always bear in mind that pain is the sign adopted by nature to remind us of some abnormal condition in our body."

The one cry of the patient is for relief. The world is full of suffering. From the first cry of the new-born babe to the expiring gasp of old age pain is humanity's companion all along the way. From the earliest times man has sought for a pain-destroyer, and the search has kept up all these years for a safe and efficient agent that will not only quiet pain but leave no unpleasant and injurious after-effects; but all search in vain. Alas! we shall never have an absolutely safe and efficient pain-curer. The administration of a pain-killer will always require, as its first requisite, discretion and brains in its application. The practitioner who thinks it "dead easy" to safely relieve pain is the man who ought to have some other doctor administer his anodynes for him.

Every sufferer seeks for relief from pain, be that pain simple discomfort, moderate and endurable, or keen and unbearable. Pain is both subjective and objective; it may be expressed in

words of complaint or manifested in bodily contortion. The cry of anguish is diagnostic and is convincing in its language, and needs not be corroborated by facial distortion. The whine of a puppy indicates whether a real pang is endured or that the whimpering is mostly pretension.

The shriek of a child which has received a severe blow or injury needs no interpretation. The outcry is in a tone full of meaning; it arouses sympathy and calls for a helping hand. The intonation of a voice calling for help is not pitched to make known joy or glee, but to awaken an instinctive disposition to render succor. The shrill cry of fire is in a key to proclaim danger.

The sound of murder in the street at midnight is terrifying, and moves the sleeper to wakefulness and the bestowal of protection. Human sympathies are sentimental, yet the most impulsive of our energies. A mother will incur any danger to rescue her child from impending peril. In fact it would be difficult to measure the depths of her sympathetic and compassionate nature.

Some years ago a patient of mine, a man of endurance, had the skin of his face, hands and arms blistered with fire while rescuing his family from the spreading flames, and after the exertion was over and the conflagration subdued, he said to me: "Doctor, my pain is too intense to be endured. Shoot me, do anything to get me out of my misery."

I administered some medicine and sent a messenger for chloroform. In a few minutes the lethal agent was at hand and undergoing inhalation, and in two minutes more the sufferer said: "I was in Hell, now I am in Heaven."

The language was strong, but expressive for a person in anguish, yet relieved so soon. I felt in that supreme moment as if I had done something to relieve a suffering mortal, and had done it quickly and without injury. Because I am able to relieve pain I enjoy being a physician.

By nature I am sensitively sympathetic, and to be able to overcome pain without evil results with drugs gives me intense gratification.

In our devotion to the law of similars many of us fail to ap-

preciate the necessity for temporarily assuaging pain during the progress of disease. By the control of that one symptom, pain, we frequently alter for the better the whole aspect of the case. We do not deny that the homœopathic remedy in certain instances may be an exquisite anodyne, and the only one needed. On the other hand we cannot but know that in an equal number of instances the homœopathic remedy alone is inadequate to act as a pure anodyne when a pure anodyne action is alone needed.

My plea in this paper is that we shall rationally employ all means to benefit our patients, and not permit a blind devotion to a dogma to prevent us from doing our whole duty to our patients.

In the Materia Medica there are many anodynes, and a large share of our practice hinges upon our ability to relieve pain with the proper use of these very anodynes. "Doctor, stop this pain" is heard every day, and we should have a meagre patronage if we refused to use pain assuagers. In fact I would not try to treat the sick as a vocation if it were not for opium, chloroform, and other effective quieting agencies at command. I would not be guilty of making a drunkard by prescribing alcohol. I should be stung with an accusing conscience if I created the opium habit in a patient. I am always on guard against committing such indiscretion and crime. Yet I am not prudish about such matters. I know of a physician, an intimate friend, who never uses an anodyne of any description, but prescribes cypripedium and other feeble nervines to allay pain. But he could not hold his patients. He had to step down and out inconveniently very often.

In the earlier years of my practice I was called to a man who was suffering intensely from the passing of renal calculi. I applied hot fomentations, etc., and prescribed a drug internally. The medication was so inefficient (although it was what I was taught to use) to overcome the terrible agony that I was dismissed (and justly, too), and another physician called who gave his drug hypodermatically, and gave his patient relief in a very brief time. Where I had toiled all night to no effect he gained a paying and grateful patron. This taught me a lesson

I never forgot, and set me to thinking. Patients may be overdrugged with anodynes, it is true, but they are rarely killed in that way. The methodical use of opium prolongs life in many instances, but unfortunately it does not impart wisdom. Its effects are intoxicating, then stupefying.

The habitual use of the drug begets alluring fancies, but these are followed by satanic realities. If longer life be obtained by the bewildering habit, the increase of the drug is a modicum of misery. There are yet physicians who do not appreciate that pain will kill; hence they neglect to administer relief on the ground that anodynes are, *per se*, damaging and never curative. No drug need be bad unless we make it so.

While it is wise and well to be cautious about overdosing, it is also wise and well not to neglect assuaging medicines when they are clearly indicated.

A discreet practitioner will not be biased by the teachings of those who entertain pet and prejudiced notions cherished to sustain an ambitious theory.

In medicine there is a superabundance of pseudo-science and too little manifestation of common sense. There are mental distresses which are as hard to bear as the pain of a crushed limb; yea, they are at times so disturbing they frequently lead to suicide.

Alcohol, as above mentioned, may temporarily benumb the senses and smother grief or shame, but the awakening from the false stupor is saddened by the quickened sense of folly, sin and shame.

Opium or some other suitable anodyne will usually so deaden certain forms of acute pain that, when once subdued, pain will not recur again, and a practical cure result. Not so with mental anguish overcome with intoxicants. It returns again and again, and often with renewed or intensified torture.

Physical pain usually results from tormented nerves, hence a removal of the cause is a rational method of effecting a cure; but while you are removing the cause you must often control the pain. But, as we are all well aware, the source of worry is either not known or beyond the power of man to remove. In such an event the medical man is to do the best that can be

done under the circumstances. He is to attempt relief perhaps by applying dry heat to the painful region, or possibly compression will be followed by relief, as in the strapping of an inflamed testicle, etc. The subduing of pain does not necessarily hinge upon the administration of an anodyne. This is not the position taken by the writer of this paper. Anodyne effects may come from rest, from sleep, through hope inspired by a discreet medical counsellor.

I pity the resources of that physician who relies upon opium to overcome mental or physical distress, and I deplore the strabismus squint of that practitioner's mind which will not admit opiates and anodynes into his practical working materia medica.

We all know and admit that incalculable injury has been done to suffering humanity by the use and abuse of anodynes and analgesic drugs by incompetent practitioners, and not only through incompetency, but also through ignorance of the drug about to be used.

Granting such to be the case, should that debar us from the proper and intelligent use of them all? As well might we say to the surgeon that he must no longer employ anæsthetics because of an occasional fatal accident resulting from their use. The physician should be as careful in selecting an anodyne as he is in selecting the proper homœopathic drug, bearing in mind that the proper anodyne may be the so-called indicated remedy.

The writer does not mean that anodynes be used in any other way than by properly individualizing the drugs, as also the case upon which the drug is to be used, and in this way no harm ought to be done, and only good result. Nor does he want his hearers to draw the conclusion that every pain, irrespective of its origin or cause, is to be muffled or lulled by an anodyne, as pain is one of nature's most reliable signs of disease.

The physician should be able to deal with pain as intelligently as the surgeon in a capital operation.

Much more might be written upon this almost inexhaustible subject, but enough has been said, and that very imperfectly.

COMPLICATIONS OF TYPHOID FEVER.

ANNA C. CLARKE, M.D., SCRANTON.

THE idea is very prevalent among the laity, and entirely too common in the profession, that any one should be able to diagnose typhoid fever at sight. Certainly no disease is at times more difficult to diagnose correctly in its early stages, or more interesting and potent in its different forms. Do not understand me that all cases are obscure, but perhaps we have no acute disease which is so aptly described by the old adage that "the unexpected always happens."

Let us for a moment refresh our minds by a hasty glance at a text-book case.

Advent insidious, general malaise, headache, with nose-bleed. Rarely ushered in by a chill, several days before patients take to their beds. During this period the bowels are apt to be constipated. The abdomen slightly tympanitic. A slight rise of temperature, which increases in a somewhat characteristic manner, rising higher each night than the preceding, receding each morning about one degree below the temperature of the preceding evening. The face is flushed, the tongue heavily coated, with the V-shaped tip; nausea and diarrhœa may now increase and replace the constipation. Mind is dull; towards the close of the first week the "rose spots" appear upon the abdomen. The spleen is enlarged. The second week all symptoms are intensified; the pulse, heretofore slow and soft, becomes rapid and dicrotic, the heart sounds weaker, the tongue is dry and hard, sordes on lips and gums. The pea-soup stool gives place to the bright yellow, mushy stool of typhoid, which may be streaked with blood. The tympanitis may be excessive.

The third week finds marked emaciation, slight diurnal variations of temperature. Nervous symptoms are intensified, hæmorrhage or perforation may occur, and a marked tendency to broncho-pneumonia. The fourth week a general recession of symptoms, and the disease terminates by lysis.

The period of general malaise may be lacking altogether, and instead the attack may be ushered in by a severe chill and high temperature.

The nose-bleed is by no means a constant symptom. I have seen it, however, so severe as to amount to hæmorrhage, and so resemble one of the eruptive fevers.

The gurgling and tenderness in the iliac fossa is found in most diarrhœal conditions, while the marked localized tenderness in cases with sudden onset suggests appendicitis. I was told by an eminent surgeon that he was called five times in one week by as many different doctors to operate for appendicitis, and upon careful investigation found them to be obscure typhoid. Again, cases occur in which there is no abdominal pain or tenderness.

The V-shaped tongue so often relied upon is apt to be associated with high fever accompanied with any gastro-intestinal disarrangement.

The cases with typical fever curves are very rarely seen, doubtless due to the bath and antipyretics. The fever curve may be reversed—higher in morning and lower at night; and, again, the temperature may remain subnormal the greater part of the attack. It has been my fortune to have two cases which have run their course with a temperature at no time higher than 100° F., and most of the time the evening temperature having been 99° F., and the morning $97\frac{3}{5}$° F. The pulse was extremely weak and rapid. It was necessary to apply external heat and use stimulants freely. In one case we had most profuse sweatings, which in many ways simulated malaria; while in the other case the nervous system received the force of the attack, and the nerve exhaustion was extreme.

While febrile albuminuria is common and of no significance, acute nephritis may be so severe as to obscure the diagnosis. Three years ago I was called to attend a boy of 15 years, with no previous history of kidney disease, who was suffering severe pain in the back. The urine was highly albuminous and often bloody. In fact, so severe were the kidney symptoms that, although the temperature curve was present, I felt certain of acute Bright's disease until the close of the second week, when

a hæmorrhage from the bowels, with marked peritonitis, revealed the true nature of the difficulty. A urinary analysis eight weeks after recovery gave negative results. Osler reports a similar case, with death on the fourteenth day from perforation.

During this summer I was called to see a woman 58 years old, who had been complaining for a week past of most obstinate constipation. The physician to whom she applied told her the liver was not working, and gave her some medicine, which failed to relieve. The physician was summoned, who sent word that a walk would do her good, and to come to his office. I was called to the case forty-eight hours later, and found her suffering intense pain, the bowels not having moved in six days. Upon examination found a large fibroid blocking the pelvis. By gentle manipulation I succeeded in relieving the pressure on the rectum. Ordered a compound liquorice powder, which gave relief. Constant nausea set in. The fever was only 100° F. at 5 P.M. About 10 o'clock that night I was sent for, but, being out, one of my colleagues was called, sent in my place. However, I returned home in time to reach the house with the other doctor. We found the abdomen enormously distended; temperature, 104.5° F.; pulse, 130; cold sweat; marked prostration; constant nausea; low delirium. The patient was suffering most excruciating pain, which was evidently rapidly exhausting the forces. We gave a hypodermic of

Morphiæ sulph., ...	$\frac{1}{4}$ gr.
Apomorphiæ, ...	$\frac{1}{100}$ grs.

Ordered a compound enema:

℞. Magnesia sulph., ...		
Olive oil, ...		
Glycerine, ...	āā	℥ij.
Spt. turpen., ...		℥ss.
Aquæ ad, ...		ʒj.

which relieved of large quantities of gas.

Urinary analysis by the Ehrlich test showed the diazo-reaction of typhoid, and two days later all the symptoms of a typical case of typhoid in the second week developed.

So I might go on; and each one of you, doubtless, could add some cases which have been obscure.

I have found that the microscope and chemistry have given most valuable aids in diagnosis. The chemical test given by Ehrlich, and modified by Drs. Simon and Green, is most reliable, and does not require the constant practice which the microscope does to be at all accurate.

The test referred to is as follows:

Solution "A."

Hydrochloric acid, 50 parts.

Distilled water, 100 parts.

Sulphuric acid, q. s. ad sat.

Solution "B."

Sodium nitrite, $\frac{5}{10}$ per cent. solution in distilled water.

Solution "C."

100 parts "A" plus 1 part "B."

Use equal parts of fresh urine and Solution "C."

Shake, and allow aqua ammonia in excess to run gently down the side of the tube, so as to overlay the mixture. If the reaction be present, a deep red band appears at the line where the ammonia meets the mixture. Upon shaking, it yields a pink or rose-colored foam. In making the test be sure and use fresh urine, well filtered, and see that the reaction is acid. Use a fresh test solution. Keep the sodium nitrite in a dark bottle, and renew frequently. The sulphuric solution keeps indefinitely. Use daylight and a white background to be sure of the color.

This test is not pathognomonic, but is constant in all severe forms of typhoid from the fourth day to the close of the fever. It is never found in malaria, appendicitis, pneumonia, acute miliary tuberculosis; is sometimes found in advanced malignant disease, in some exanthemata, and in high fever due to septic absorption. It is extremely easy to make the test, and certainly returns any trouble by the feeling of security it gives the physician.

I am more partial to this test than to the agglutination test for the general practitioner, since few of us are sufficiently skilled in the use of the microscope to always be certain of the

specimen. While, no doubt, the test of Widal is most accurate, yet it is best left to those skilled in microscopy and accustomed to elaborate laboratory methods. Just one word about sending specimens of serum for examination. They should never be sent in any other way than between cover-glass and slide, which have been disinfected and rinsed in sterilized water.

In fifteen cases where I have made the diazo-test of the urine I have found the reaction present in every case after the third day; and in five cases suspected to be typhoid, and presenting many of the typical symptoms, failed to give the reaction, and all such cleared up in less than ten days.

SERUM THERAPY.

A. B. LICHTENWALNER, M.D., PHILADELPHIA.

These remarks are the result of a long series of experiments regarding the nature of antitoxin and its mode of action. Unfortunately, as yet, little is definitely known. The two main theories are, first, that its action is purely chemical, or that the antitoxin neutralizes toxin, as an alkali neutralizes an acid; and, second, that its effect is rather a vital one, rendering the cells tolerant of the diphtheria toxin, without being in any sense germicidal in its effect. The antitoxin produces a change in the blood that resists the growth of the diphtheria bacillus, and the membranous inflammation which this excites. To Behring pre-eminently belongs the credit for the development of the principles of serum therapy, the first experiment upon diphtheritic patients being undertaken as early as the year 1893.

It may seem that I intend to speak of all serum therapy as a therapeutic agent; such, however, is not my intention. My remarks will be chiefly directed towards antitoxin as a therapeutic agent in diphtheria. During the past two years I have seen twenty-six cases in which I have used this agent, the results of which I will speak later.

My recent visit to the Biological Laboratory, located in Philadelphia, in charge of Dr. Joseph McFarland, was one of interest. I found the laboratory well equipped both for original research and for the preparation of its various biological products. I was shown the culture-room and incubator, used principally for growing toxin. In the adjoining room microscopical examinations are repeatedly made to see that only diphtheria bacilli are present and that the diphtheria toxin is not contaminated. If old enough and uncontaminated, 1 per cent. of trikresol is added to destroy the living bacilli, which are then filtered out. The bouillon or filtrate contains the toxins secreted by the bacilli, separating it from the diphtheria bacillus. No bacilli are therefore injected into the animals about to be immunized, but only the toxin secreted by the bacillus. The horse is selected because he furnishes liberally an excellent serum. Beginning with a small quantity, rapidly increasing doses are given at intervals of about one week, for a month and a half or two months. The last doses are frequently more than three hundred times as large as the first, yet these are received with impunity. If the trial bleeding shows the presence of very large quantities of antitoxin, the horse is freely bled and the serum separated by coagulation. The strength of the toxin is determined by studying its effects when it is injected into guinea-pigs; the smallest amount of toxin which is necessary to cause death within two days is recorded as the minimum fatal dose. It is always calculated at so much per hundred grammes body weight.

The situation, structure and peculiar secretion of the tonsils are frequently the seat of special affections of bacillary origin. All of these affections in their incipiency are classed as "sore throat."

We all know the faucial tonsils are two glandular organs, situated one on each side of the fauces, between the anterior and posterior pillars. They are essentially duplications of the oral mucous membrane, embracing in their folds the special lymphoid elements, or glandular structure of the organs.

The surface of each tonsil is perforated by slit-like and circular depressions into which open the mouths of the various

follicles. A viscid fluid which lubricates the faucial surface and facilitates the passage of food serves as a trap for diphtheria. Because of location the tonsils are amenable to both local and specific antiseptic treatment. In their deep mucous folds and numerous crypts many micro-organisms, common in atmospheric air, find favorable lodging-places, among which are the staphylococcus, streptococcus, pneumococcus, Klebs-Loelffler or diphtheria bacillus. The conditions they excite are simple tonsillitis, pharyngitis, follicular tonsillitis and quinsy. Some of these affections are frequently the forerunners or accompaniments of acute infectious fevers, especially of diphtheria.

I will now mention the results obtained from the use of diphtheria antitoxin in twenty-six cases—a collective study of which is so overwhelmingly favorable that an aversion to it appears almost incredible. Before its introduction we placed reliance on many other remedies. My earliest recollection of the treatment of diphtheria was with such remedies as red iod. merc., kali bich., nitric acid and merc. cyanide, together with local treatment by permanganate of potash, peroxide of hydrogen and Labarraque's solution.

The death-rate of diphtheria before the use of serum therapy was from 40 to 75 per cent. Since then it has been markedly reduced. This in itself justifies the employment of serum therapy. In every case where I employed it I was successful. The ages of the patients ranged from one to thirty years.

I will not burden you with a detailed statement of these cases, but simply speak briefly. Twenty-three had either the tonsils, uvula or pharynx involved, two were laryngeal, and two had invaded the post-nasal space.

The majority I saw within the first twenty-four hours. They were definitely diagnosible as diphtheria. Already there was considerable involvement of the upper air passages. In my first case I gave Mulford's diphtheria antitoxin, standard No. 2, the dose containing one thousand units in ten c.c. of serum. Within the first twenty-four hours there was no apparent result. On the second day one thousand units more were injected, and there was a pronounced amelioration of all the symptoms, and then for the third time one thousand units were injected. In

the next twenty-four hours the throat commenced to clear and the edges of the membrane began to curl, and by the fourth or fifth day there was nothing to show that an exudation had been present. In but one post-diphtheritic paralysis followed. Such was the treatment adopted when I first began the use of serum therapy in diphtheria. Further experience, however, led me soon to give a smaller and more concentrated dose, and now I give but one injection of two thousand units of the most concentrated solution manufactured. If there is no improvement I give a second injection of the same strength. A third injection is not necessary even in severe cases.

Although antitoxin is a specific for diphtheria, yet one must know how to use it. Great importance should be attached to the technique of administration. All cases do not recover by the use of this agent, but this is no adequate reason why it should be discarded. The most important point to be considered is the amount to be administered in one dose, and when to repeat. It is never gauged by the number of days' illness, but always by the physical condition present. Should laryngeal symptoms be at all prominent, a large dose, never less than two thousand units, must immediately be administered.

I will here quote from Holt, who says: "In its onset, membranous inflammation of the larynx is indistinguishable from the catarrhal form, so that every case of pseudo-membranous laryngitis should receive an injection of antitoxin upon a clinical diagnosis without waiting for this to be confirmed by bacteriological examination. Nowhere else are the beneficial effects from antitoxin so evident and so striking as in these cases."

If the pharynx only be involved, and antitoxin treatment is begun early, a dose of moderate size, at least one thousand units, is sufficient. If the nasal cavities are affected, a large dose is required, since such always have a large absorbing surface and a high degree of toxæmia to combat. In the laryngeal type, stenosis and extension of the membrane are best prevented by a concentrated dose of antitoxin. Where marked cell destruction exists, antitoxin will not save life. It is given to stop this destructive change, and is not capable of correcting

the damage already done. In laryngeal cases always give the largest dose of a concentrated serum. Repeat in six to twelve hours, giving a third or fourth dose if necessary. Antitoxin preparations in the different laboratories are supposed to be of the same standard strength, differing in bulk or horse serum only. As an immunizing dose for those who have been in contact with developed cases, give from two to three hundred units. For this purpose, standard antitoxin containing five hundred units is sufficient for two persons. For an ordinary developed case in child or adult, use concentrated serum containing one thousand units, and repeat the same dose if the desired results do not follow in six or twelve hours. For severe neglected or urgent cases, and for all laryngeal cases, use concentrated serum containing two thousand units, to be repeated or doubled in from six to twelve hours, in accordance with the urgency of the case. After withdrawing the syringe, cover the puncture with collodion or absorbent cotton. After the antitoxin has been administered, continue to sustain the heart and fortify the tissues with our old remedies; and whether you wish to omit one or all of the auxiliary drugs, as may all depend on the physical condition present, always bear in mind that antitoxin is the sheet-anchor, and, if given early, intubation is seldom necessary, and tracheotomy will be a thing of the past. Any reported injurious effects should be looked upon in the light of accidents, for which the antitoxin is probably not responsible. In a few cases I recall quite marked urticaria, which Dr. McFarland informs me is excited by unripened serum.

Serum therapy in diphtheria may now be administered with the same degree of confidence that characterizes the employment of any other undoubted and invaluable therapeutic agent. Idiosyncrasies to drugs are to be expected. As the powers and limitation of antitoxin became better appreciated, the dose was increased, and the interval in repetition decreased.

We think at the present time that an antitoxin of five hundred units per c.c. can now be administered with an ordinary hypodermic syringe if the precaution be taken to expel air from the syringe before inserting. This is an improvement on the large antitoxin syringe formerly used when two drams of

serum were injected, causing fear and torture to our little patients.

I am convinced, from a varied experience in the use of serum therapy, that the constantly increasing number of recoveries reported will serve to increase its field of usefulness. Although antitoxin is a specific for diphtheria, we should be studious in the knowledge of how and when to use it.

DISCUSSION.

Dr. E. R. Snader: Mr. President: I do not wonder that a man who has succeeded in carrying twenty-six cases of diphtheria successfully through their illness has a very great belief in his remedy. I have no doubt that I would have. We have all heard the old saying that "one swallow does not make a summer," neither do twenty-six. The exact status of usefulness of serum therapy in diphtheria is unsettled. Whether it is going to be continually efficacious, is an open question. For instance, we have some statistics to show that the death-rate has not been allayed at all during the last decade—during the three years in which antitoxin was used. Some years ago mercuric chloride was presumed to be a specific. A gentleman had about forty-five cases in an asylum, and that drug proved efficacious in all but three; he was very much a believer in mercuric chloride treatment of diphtheria, he regarding it as a specific. Unfortunately, that institution was subsequently attacked by diphtheria, and mercuric chloride proved worth as much as so much water. I mean that during this season and the one preceding the remedy for diphtheria has evidently or apparently been antitoxin; but to declare it absolutely specific is trying to forestall judgment. I have used it, and used it in some desperate cases where nothing would help.

There is one point in the paper, in reference to the statement made by Mr. Holt, with which I must disagree. "In all cases of pseudo-membranous throat affections, those manifesting hoarseness must be injected with antitoxin for fear of having diphtheria." If you have reason, from the surroundings, to suspect that a given case will develop laryngeal diphtheria, all right; but to make such a broad statement as that is open to

debate. I do not mean to underrate Dr. Lichtenwalner's paper; I think the results he obtained were admirable, but I want to throw out a word of caution that the question is still open.

Dr. A. L. Kistler: I am a very strong advocate of antitoxin. Three summers ago we had a very malignant epidemic at Allentown and a great many physicians lost cases. I concluded to use the antitoxin in a number of cases as a last resort, and in all the cases, of course, the patients died; but I observed its action on the fauces, and during the last two years I have had no less than fifty cases of diphtheria of all shades and hues and varieties. I did not use antitoxin in every case. If I see a case of diphtheria, I generally make up my mind within forty-eight hours whether it is going to be a bad case or not. If I think it is I use the antitoxin, and if I do not, I generally get along without it. Wherever I have used it I have used the merc. corr., which I try in combination with it.

I do not agree with Dr. Lichtenwalner as to the repetition of the dose. I do not repeat it within twelve hours, nor do I repeat it within twenty-four hours, unless there is an increased exudate. I have seen some of the worst cases not respond to one injection at the end of forty-eight hours. In nine-tenths of the cases I got along with No. 2 injection.

Dr. Burlingame: Dr. Lichtenwalner, if he only knew it, is a very brave man to introduce the subject of serum therapy in Pittsburg before the members of the Allegheny Medical Society. I had a case last January, and while I met a great many members of the Society who agreed with me, there were still quite a number of members who disagreed with me, but I have nothing new to state at the present time because I have had no new cases of diphtheria since last February, but I would simply like to mention one or two cases that I referred to in a paper which I read at that time. One case was that of a child who seemed past all possible hope. Never in my experience have I ever seen a child in the same condition who recovered, the child being in a moribund condition and seemed one of the worst malignant cases of diphtheria I had ever met. I told the parents about this serum—this antitoxin—and told them that I had no particular faith in it myself, but if they wanted

to try it, it was the last anchor. They told me to get it and at five o'clock in the evening I injected it, 2000 units, Mulford's. That child never flinched from the needle being injected; it was simply in a moribund condition, never showing the least intelligence for five hours after the injection was made. Then it began to recover, and next morning, when I made my visit at the house, the child was sitting up in a chair at the window watching me come up the street. The membrane lasted there for four or five days after all the poisonous symptoms had left. The child seemed perfectly well.

Now, there was another case where the child seemed at the point of death and we used this serum in the evening; the next morning the child was sitting up in bed playing with its playthings. That may be like raising the dead to life, but it is a fact! That child had the membrane clinging to its throat for several days afterward, but still all poisonous symptoms had left it and it made a rapid recovery. There were several cases right along at that time and they all seemed to respond to the antitoxin treatment, and I must say that from the little experience I have had I would feel that I was doing an injustice to my patients if I had a case of marked diphtheria and did not try the antitoxin.

Dr. A. L. Kistler: That is not exaggerated. I had some who were black and putrid on the first visit and inside of twenty-four hours they were comfortable. Within two years I have not had a single death from diphtheria. I would consider it criminal not to use this antitoxin.

Dr. Theo. J. Gramm: I want to ask whether some of the gentlemen who have reported series of cases of antitoxin have used any other medicines in connection with their treatment. I am considerably interested in this subject, and have never yet heard among my associates in Philadelphia any series of cases that have been treated without the exhibition of other remedies, either homœopathic or adjuvant. I would like to know what is the treatment in these series reported.

Dr. Burlingame: I wish to say that while I have used antitoxin in desperate cases (and from my experience in using it I intend to continue), still I have never failed to use what I considered a homœopathic remedy.

Dr. W. McCracken: I have used antitoxin in the last five or six cases; every case has died but one, and I do not propose to employ it again. I used four cubic centimeters; I believe that is the amount they advise using, and the little child was dead the next morning. I have vowed I would never use it again.

Dr. A. P. Bowie: I would like to ask those who have used it successfully whether these cases have been attended with hæmorrhage, either from the nose or throat. Such cases are the most dangerous and fatal. I would also like to know whether any one has cured a case with hæmorrhage.

Dr. A. L. Kistler: I have not had hæmorrhage, but I have had nasal involvement.

Dr. A. P. Bowie: I mean with actual hæmorrhage.

Dr. H. B. Ware: Do they choke to death? Is it from lack of oxygen, or poison from the disease? I think that is the question. If the child is breathing fairly well, even though the membrane is firm, there is a point when antitoxin should be used. There surely must be a time when it can be used with great advantage, and that should be the question, when to use it and when not to use it, when to rely on our homœopathic remedies or when to rely on surgery.

Dr. H. S. Weaver: I think as long as we have a membrane intact, we have a place where absorption of poisonous matter takes place—in which we all will agree that from this membrane the poisonous matter is absorbed, and the direct cause of death is from paralysis due to absorption of toxin poison. My experience has been very favorable with antitoxin in diphtheria of the laryngeal type, where we have a membrane coming up in the larynx. There is nothing in my experience that will equal antitoxin in loosening the membrane and getting rid of it. There are a great many cases of the laryngeal type that die of strangulation; but even if they do not, as long as the membrane remains there is that absorption going on, and two or three weeks later you may have death from paralysis.

Dr. C. P. Seip: Physicians use antitoxin in severe cases and have success with it. They tell you, if they have diphtheria

and the ordinary remedies do not relieve, they resort to antitoxin. If it cures in severe cases, why do they not use it in mild ones? I have no objection to antitoxin—I am not an advocate of it, nor am I opposed to it; but I think that my question is very pertinent and should be answered in some way.

Dr. H. S. Weaver: Our families are not educated up to the antitoxin treatment, although they will be in a few years. I believe that physicians are really afraid to use it for fear that they will be blamed if accidents follow its use; therefore it is only in severe cases that they will use it. The patients may die suddenly from paralysis. There have been cases of death from diphtheria where they apparently were very light, with deep systemic involvement and paralysis of the heart. If you use antitoxin and have death from paralysis of the heart, the family will blame you.

Dr. A. B. Lichtenwalner: Before I used antitoxin I remember hearing about the curing of the cases of diphtheria by the remedies usually recommended, but since I took hold of this new agent I have diagnosed the same way as I did before; the cases were not any severer, but they were simply diagnosable as true diphtheria. I had in the twenty-six cases, I remember, about five or six which were very severe. I used 1000 units, I guess four injections (watching my case) at intervals of twenty-four hours, as the membrane began to turn. But the antitoxin, to me, is the principal treatment for diphtheria at the present time.

A CASE OF FATAL PERITONITIS—THE AUTOPSY SHOULD VALIDATE PENSION CLAIM.

E. C. PARSONS, M.D., MEADVILLE.

There have been assertions in the public press, in recent years, to the effect that numerous frauds, great and small, have been perpetrated against the Pension Bureau by pension sharks, that there are carried on the rolls several thousand more "survivors" than there are living survivors of the Civil

War, and that during the past decade more fraudulent than honest attempts to secure pensions have been made by would-be dishonest mendicants, aided by unscrupulous pension agents, by incompetent or unprincipled examining boards, and by mercenary politicians willing to barter their influence and prestige of office to the nefarious business, ostensibly for the good of old soldiers and the maintenance of a proper public generosity toward the country's defenders, but primarily for the purchase of votes in their own behalf.

Of course all such assertions relating to politicians are no reflection upon the honor and integrity of the members of the profession of which this Society is a representative body, for the reason that busy medical men, and medical women, too, have no "political axes to grind," and are not on the market for the purchase of votes.

The members of this Society and homœopathic practitioners generally are certainly exempt from any complicity in frauds chargeable to pension examining boards for reasons well known to the profession, especially to that branch of it which must needs bear the stigma as well as the honors of an office of which it has a monopoly.

A careful and unprejudiced investigation of all such accusations of fraud in this department of the public service would doubtless prove that they are, in the main, either exaggerated statements or without foundation in fact, having their origin in the narrow and prejudiced minds of the cowards (or of their lineal descendants) who hid in the woods or sought health in Canada during the perilous times of their country's need.

No doubt many veterans have heroically borne physical disabilities induced by military service, choosing rather to endure the inconvenience and distress of poverty than to suffer the humiliation of being stigmatized as dishonorable by a suspecting and ungrateful public.

Numerous examples are in evidence indicating the impossibility of correctly estimating, in advance, the far-reaching and serious consequences following wounds which at first seem quite insignificant, or the ill-effects of physical exposure incident to army life.

The delicacy of the nervous system and the sympathetic relation existing between the various organs and tissues of the body render slight shocks, injuries and exposures the nucleus for the development of serious physical disturbances, which are fruitful of great and ever-increasing suffering, weakness and death.

The foregoing reflections as well as the title and subject-matter of this paper have been suggested by a recent case from private practice the history of which would be incomplete without a frank acknowledgment of a failure to effect a cure; but any consequent abasement will be cheerfully borne if I succeed in contributing somewhat to the interest of the Bureau of Clinical Medicine at this session.

Case of Colonel J. B. C.

Family History.—Exceptionally good. His father died of paralysis at the advanced age of 80 years, and his mother of la grippe at the same age—fourscore years. One sister died, from the effects of accidental injuries, at 55 years of age. Two sisters, aged respectively 40 and 45 years, and one brother aged 61 years, survive, and all are in good health.

Personal History.—Colonel C. was 62 years of age. His weight 200 pounds, and his height 5 feet 7 inches. Principal occupation during the last thirty years, the practice of law. He was a veteran of the war of the rebellion, having enlisted September 3, 1861. At the battle of Gaines Mills, June 27, 1862, his division was ordered to retreat late in the evening, and on crossing the Chickahominy in the darkness he fell upon a defective bridge and sustained an inguinal rupture of the right side, including other lesser injuries. He sufficiently recovered from this accident to enable him to take part in the battle of Malvern Hill four days later—July 1, 1862—where his regiment was overpowered by numbers and temporarily repulsed, and he was wounded in the left buttock, near the hip-joint, by a minie-ball. The missile was removed at the point of entrance, and several spiculæ of bone of considerable size were also extracted at the same time. He was discharged on Surgeon's certificate October 23, 1862.

Further History from Personal Knowledge.

I was intimately acquainted with Colonel C. for twenty years, having been his family physician during the last fifteen years. He occasionally consulted me, personally, for slight ailments, such as temporary indigestion, catarrhal colds affecting the nose, throat or bronchi. I treated him also for an attack of la grippe, some time during the early period of its advent among us, under the present Americanized disease title. From this quite serious illness he made a prompt and perfect recovery. In our social converse he had occasionally referred to the injuries which he had sustained while in the army as the source of many of his physical ills, but did not request from me a special investigation of these injuries nor of their effects until about five years since, when he came to me suffering from severe urethral and vesical irritation, which he then informed me had been the cause of much discomfort, and the source of great pain at intervals ever since he was wounded.

A digital examination per rectum confirmed my suspicion of an enlarged prostate. The possibility of kidney involvement at this time was disapproved by the negative results of the urinal analysis, which indicated a normal condition of this excretion in every respect save the reaction, which was alkaline.

A brief period of treatment so far relieved the acute and more distressing symptoms, which then existed, that he felt justified in temporarily discontinuing further medical attention.

I was not again consulted by him in relation to this particular ailment until the seventh day of May of the present year.

He was then suffering from a dull, aching pain in the region of the bladder, with frequent desire to void urine, which was attended by the most distressing symptoms. The dysuria was intolerable, the flow intermittent, and accompanied by involuntary, uncontrollable and painful contractions of the bladder.

During these frequently recurring paroxysms the patient

evidenced great distress. There was great general nervous excitement, extreme redness of the face, and contortion of the facial muscles.

The muscles of the bladder and generative organs were rigid, and the integument covering the latter presented a purple hue.

The quantity of urine was now greatly increased, varying from three to five quarts in twenty-four hours. I soon became convinced that the patient was not able to fully evacuate the bladder, notwithstanding the daily amount was more than double the normal limit.

On determining to insert a catheter, he assured me that he had passed more than a pint of urine only a few minutes before, and deemed such an expedient unnecessary. I insisted upon a trial, gained his consent, and succeeded in drawing at least a pint and a half of residual urine of light color and putrid odor. Several qualitative analyses, made at intervals of a few days up to this date, usually indicated a specific gravity of 1012, reaction acid, and free from both albumin and sugar.

After about ten days' treatment by the use of such remedies as cannabis sat., cantharis, merc. cor., nux v. and phos. ac., the distressing symptoms became less severe, and he passed several days of comparative relief, but without decisive change of the condition.

On the morning of May 21st J. L. Dunn, M.D., of Titusville, a cousin of the patient, visited him with me, and advised the immediate and complete dilatation of the urethra by means of the graded steel sounds. This was accomplished under complete anæsthesia, and the patient rallied without evidencing any serious shock. However, the inflammatory condition seemed greatly aggravated; considerable swelling and suppuration followed; besides, there was a renewal of the distressing dysuria.

It became more difficult to pass the urine and to insert the catheter. An examination of the urine one week after the dilatation revealed the presence of albumin, and this continued in rather increasing percentage; but a careful microscopic examination failed to detect the presence of tube casts.

About this time the urine, which had been profuse and light-colored, became scanty, turbid, and reddish-brown in color.

These symptoms, with continued presence of albumin, an occasional chill, followed by decided fever, loss of appetite and pain, with tenderness in the loins, indicated acute renal involvement.

Finally, there was nausea, vomiting, tenderness and distention of the abdomen, accompanied by severe lancinating pains, paralysis of the intestines, feeble pulse, cold sweats, hippocratic countenance, and the signs of liquid effusion within the abdominal cavity—unmistakable evidences of septic peritonitis, which resulted fatally June 13th.

An Explanation.

It should be here stated that Colonel C. had for years been on the pension rolls of the government, but now his dependent widow could not receive governmental aid, under the rulings of the bureau, unless the exciting cause of the condition which produced death could be traced to the injuries which the deceased had received while in the army, as her income, though very meagre, was in excess of the restrictive limit.

Notwithstanding her very limited resources, it was only at the request of the special agent of the Pension Department, and the solicitation of personal friends, that she finally consented to permit a post-mortem, which might enable her to establish a just claim. Her high sense of principle would impel her to spurn with righteous indignation any aid secured by dishonorable methods.

The Autopsy.

Assisted by Doctors M. C. Blystone and E. R. Pond, I made a post-mortem examination June 15th, and found considerable effusion, sero-purulent in character, within the peritoneal cavity. The peritonæum was injected, and its connective tissue infiltrated.

The kidneys were enlarged, dark red in color, and firm in texture.

There was concentric hypertrophy of the bladder, involving

the whole muscular tissue of the organ. The muscular fibres were cord-like, projecting into the cavity of the bladder and crossing each other in various directions, giving the interior of the organ a columnar and fasciculated appearance. The walls of the vesica had an average thickness of at least one-half an inch. The mucous lining was thickened, softened and flocculent, indicating a chronic inflammatory condition. Just back of the enlarged prostate, on the left side and near the most pendant portion, the bladder was sacculated—a single blind sac, into which we could insert the little finger at least one inch and a half.

Externally, this sac was surrounded by cicatricial tissue, and firmly adherent to the adjacent connective tissue. This *cul-de-sac* was in line with the external cicatrix caused by the gunshot wound of the left hip or buttock.

The prostate gland was greatly enlarged, with well-marked evidences of suppurating spots on its surface.

Conclusions.

The fact that this soldier, whose veracity was beyond question, had attributed the vesical irritation to the gunshot wound would indicate a probable correct association of the effect with its cause, rather than a possible coincidence of circumstances.

While it is true that hypertrophy of the bladder is occasionally accompanied by a sacculated condition of the walls, it must be remembered that under ordinary circumstances the cysts are found to be multiple.

Here was discovered a single sac, imbedded in cicatricial tissue and located in line with the external scar, which marked the entrance of the gunshot missile.

By carefully associating the history of the case with the conditions present at the autopsy, the evidence seems quite conclusive that the gunshot wound penetrated the muscular coat of the bladder, leaving the mucous coat intact. This wound, being at the base and most pendant portion of the organ, the thin and distensible mucous coat, by reason of the weight of the accumulating urine, must have pouched through the opening of the severed muscular coat, causing a hernia of the lining membrane of the vesica at this point.

The close proximity of this sac and its surrounding cicatricial tissue to the prostate gland would indicate that the early enlargement of the prostate may have been due to the same cause.

This sac had possibly a capacity of about two drachms, and this residual urine was constantly augmented by the glandular enlargement. These impediments to the complete discharge of urine must have contributed to a morbid condition of this fluid, causing an irritable bladder, which, in its efforts to rid itself of the offensive and ever-offending liquid, must have contributed to the enlargement of its muscular fibres in proportion to the call made upon them. Hence the remarkable hypertrophy of the muscular coat of this reservoir.

The acrid condition of the urine from ammoniacal decomposition became a source of fresh inflammation and purulent secretion, which further promoted decomposition. Having two sources of mischief, it was inevitable that a worse condition should obtain, and in consequence pyelitis developed by extension of the morbid process along the ureter.

The involvement of the kidneys in the inflammatory process, the consequent interference with the depurative function of these organs, and the retention in the system of deleterious and effete substances which should have been carried off by the renal organs, were all-sufficient causes for the development of the peritonitis.

This last and final result may have been due to extension of the inflammatory process by continuity of tissue. Be that as it may, the primary cause remains the same.

It was undoubtedly the gunshot wound which initiated the succession of conditions which finally, and after more than a third of a century, led to the fatal issue.

In view of the advanced age attained by his parents, and his own natural vigor of body and exemplary habits, it is but reasonable to suppose that his life was cut short by a period of fifteen years or more, as the direct result of that injury.

Permit me to say, finally, that in the preparation of this paper I hoped to emphasize the impropriety and injustice of passing judgment upon the honor of veterans who are upon

the rolls of the country's beneficiaries without a knowledge of the facts upon which the claims are based.

I have also hoped to contribute somewhat to the variety, if not to the interest, of the Bureau of Clinical Medicine by departing from the rule of recording remarkable cures, and at the risk of being counted an innovator against a time-honored custom make an open confession of at least *one* failure to effect a cure.

I shall entertain the hope, however, that the extenuating circumstances and conditions may prompt the charitably inclined to regard the fatal result as having been beyond remedial contrast.

THE BAD NAUHEIM (SCHOTT) TREATMENT OF HEART DISEASE AT HOME.

E. R. SNADER. M.D., PHILADELPHIA.

The Schott method of treating chronic cardiac disease, and the astonishing effects occasionally resulting from pursuing the course of treatment originated and carried out by the Schotts at Bad Nauheim, Germany, have naturally created in the medical world a desire to know the particulars of the treatment in detail. Not every one can journey to Bad Nauheim, and few, even were they actually on the ground, would, for very obvious reasons (all the patients being private and all the physicians busy), be able to penetrate the charmed circle, where facilities for exact study, observation and investigation sufficient to give one a true idea of the workings of the method, would be afforded.

During my investigations at Bad Nauheim I was most fortunate in the friendship of a number of physicians, who, appreciating my mission, lent me every facility in their power to forward my work.

This paper is the second of a series I have presented to the profession in which I have endeavored to disclose what I learned at Bad Nauheim.

In view of the fact that but few patients are able, by reason

of the stage of their disease, to take an ocean trip, a long railway ride, nor possibly afford the expenses of living, of baths, of exercises, of physicians, at Bad Nauheim, not to mention the difficulties of a foreign tongue and a German cuisine, any knowledge that will make it possible to carry out the Schott method at home will, I am sure, be welcome to the profession.

Aside from the influence of change of scene, a regulated diet and strange food, absence from business, freedom from domestic cares, a favorable climate, and mineral drinking-waters, the principal means by which Bad Nauheim achieves its results are, briefly, by mineral baths and exercises.

The Baths.

The baths are the simple saline, the thermal brine, the sprudel, the sprudel current.

The simple saline bath is infrequently employed in heart affections. The water for this bath comes from the springs known as the Grosser Sprudel (No. 7) and the Friederich Wilhelm's Quelle (No. 12), as it does for all the other baths. The simple saline, while not much employed, in the process of making is productive of certain salts that are of great value for regulating the mineral strength of the other baths. By evaporating the water from either or both of the springs the natural carbonic acid gas characteristic of the waters is allowed to escape, and the heavier salts are permitted to subside. In the process of evaporation, and with subsequent boiling, and after much of the salt has been abstracted (they manufacture salt at Bad Nauheim), there is left a thick, dark, muddy-looking, New Orleans molasses-colored, non-crystallizable extract, known as mutter-lauge (mother-lye), very rich, among numerous other elements, in chloride of calcium and bromine. This mother-lye is used extensively to gradually and systematically increase the strength of the baths from time to time. The physicians, by the use of mother-lye, are able at will to increase the elements in the bath capable of causing peripheral irritation, and peripheral irritation, properly applied, has much to do with the successful outcome of the baths.

The thermal brine bath, which is the one most cardiac cases

take at the outset of the bath treatment, is a reddish-brown liquid, looking much like a puddle of dirty water in a clay-bed after a heavy rain. This color is caused by the escape of the carbonic acid gas into the atmosphere as the water is thrown up from the earth into reservoirs. The loss of carbonic acid gas permits of only partial solution of the iron and chloride of calcium.

The sprudel or effervescent baths are sparkling and clear as crystal, and, while having their source in the same springs as the thermal brine, viz., Nos. 7 and 12, are brought directly to the bath-tubs by means of pipes running from the springs in the interior of the earth without prior exposure to the atmosphere, and consequently without escape of the natural carbonic acid gas.

The sprudel strom (current) is a continuous effervescing of water flowing in and out of the tub while the bath is being taken. This bath is an exceedingly powerful one, employed with the greatest circumspection in cardiac cases. So far, it has not been possible to successfully imitate the sprudel strom.

Upon the therapeutic virtues of the last three baths, the thermal brine, the sprudel, and the sprudel effervescent, much of the good work performed at Bad Nauheim depends.

Can we imitate these baths successfully at home? Yes, the first two fairly well. While a large number of mineral elements are present in the waters of the Grosser Sprudel and Friederich Wilhelm's Quelle, the really active ingredients are thought to be *chloride of sodium*, CHLORIDE OF CALCIUM, and CARBONIC ACID GAS. I myself, however, cannot but believe that the iodine and bromine (and possibly the arsenic and silica) have much to do with the results—far more, indeed, than seems to be appreciated by the theorists.

Dr. Schott himself has long been of the opinion that to an approximate extent the Bad Nauheim baths may be artificially imitated. In severe cases, where these made baths are used, the treatment should commence with a 1 per cent. solution of chloride of sodium, and the strength gradually increased to 2 or 3 per cent. The special mineral element capable of producing the greatest amount of skin irritability (which is the

precursor, or occurs *pari passu* with the desired cutaneous capillary dilatation) is the chloride of calcium. One per cent. of a solution of this salt should be added, the amount being gradually increased, in successive groups of baths, until 2, 3, and finally 5 per cent. is reached. The 2 per cent. amount fairly approximates the quantity in the Grosser Sprudel and the 3 per cent. that of Friederich Wilhelm's Quelle. Imported mother-lye contains the chloride of calcium, as does also some of the halogen salts and Mediterranean sea-salt.

Roughly speaking, from five to ten pounds of chloride of sodium and from half a pound to one pound of chloride of calcium, added to forty or fifty gallons of water (Greene) are proportions that may be used in the preparation of the first series of baths. In this manner could be imitated, to a certain extent, the so-called thermal brine.

The temperature of the first bath, unless there be present contra-indicating reasons, should be 92° F. for cases not specially bad. The temperature should be lowered a half or a whole degree, say after a group of three baths given on successive days. A pause in the bathing should take place after two or three baths. The temperature of the water should not be permitted to go below 83° F., and must only reach this low point after a careful consideration and a gradual lowering a half or whole degree at a time in successive baths.

The duration of the first bath should be from five to eight minutes, and the time of immersion increased by a minute each following bath until finally the extreme limit of twenty minutes can be reached.

The patient must be personally watched by the physician in the first few baths, and, possibly also, at the beginning of the baths of longer duration, in order to obviate or control syncope. A chill in the water must lead to the immediate taking of the patient from the bath. This precaution does not refer to the little precursory shiver the patient feels when he first enters the water. The shivery sensation is soon followed by one of agreeable warmth. Baths that have induced chill should lead to the giving of the next series at a higher temperature, lowering it gradually in successive baths until the patient becomes

inured and can more than stand the temperature at which the chill occurred.

While in the bath the patient must remain absolutely motionless. After being thoroughly dried, when the bath is over, the patient must rest or sleep for an hour or two. The baths, of course, must not be taken soon after eating.

After about twenty or twenty-five baths of the so-called thermal brine variety have been given, it is often advisable to modify the baths so as to give them an effervescing character, in imitation of the sprudel baths of Nauheim. This is done by using the chlorides of sodium and calcium as in the first course of baths, and introducing carbonic acid gas. Carbonic acid gas effervescence can be produced by the action of hydrochloric acid on the bicarbonate of soda.

By the employment of different methods the gas can be made to evolve slowly or rapidly. When slow production is deemed best, the various salts, including the proper proportions of bicarbonate of soda (after being dissolved in the water of the bath), a bottle containing the hydrochloric acid is laid at the bottom of the bath-tub, and, the stopper being removed, the bottle is moved about from time to time. By this slow method two or three hours elapse before the bath is ready for use.

Rapid effervescence is secured by partly removing and still partly retaining the stopper of the acid bottle. The bottle is inverted and lowered until its mouth is just below the level of the water, when the stopper is drawn and the bottle moved about, so as to diffuse a layer of acid as uniformly as can be over the surface of the water. About five minutes is all the time required to prepare this bath.

These so-called effervescing baths, imitations of the sprudel, can be made in three degrees of effervescence:

Mild.—$\frac{1}{2}$ pound $NaHCO_3$ to $\frac{3}{4}$ pound HCl. (25 per cent.)

Medium.—1 pound $NaHCO_3$ to $1\frac{1}{2}$ pound HCl.

Strong.—2 pounds $NaHCO_3$ to 3 pounds HCl.

This is Dr. Bezly Thorne's method of preparing the artificial effervescing sprudel. Except where a porcelain tub is used, "a slight excess of alkali should be used in order to prevent corrosion."

Dr. Greene makes the effervescing bath by adding six ounces of bicarbonate of soda and seven ounces of hydrochloric acid to the brine water.

The temperature of these baths must be most carefully regulated. It would be wise to duplicate the Nauheim temperatures of corresponding baths. It is thought that the lower the temperature at which the bath can be taken the better, but the rule is not without exceptions. In rheumatics, for instance, a cold bath might induce an acute attack.

When beginning a new series of baths, that is, the second stage of bath treatment, the effervescing sprudel, you permit the first bath to occupy five to eight minutes, as in the thermal brine, and gradually increase the duration day by day, of course giving a day of rest between every three baths, until twenty baths have been given. At this stage it may be wise to interrupt the course of treatment for two, three or more weeks, and then recommence if the effect produced has not been sufficient to render the patient comfortable. Certainly the baths should not be continued too long. A course at Bad Nauheim is from five to seven weeks, and they do not, to my knowledge, give a double course without previous interruption. Good judgment must dictate the next step.

A lower temperature may be employed in the effervescing than in the thermal brine, because of the warming effect of the contained carbonic acid gas. However, the lower temperature must be reached by slow degrees. It is best to begin at 92° F., if there are no contra-indications. Warm water may be em ployed to elevate and ice to lower the temperature.

The effect of the baths is to reduce the size of a dilated heart, diminish the number of pulse-beats, fill the arteries, partially empty the veins, open up the cutaneous capillaries, and inaugurate a rehabilitation of a damaged heart-muscle by reason of nutritional changes. The capillary congestion is most marked in some instances, the patient coming out of a sprudel bath red and glowing. I can liken the effect to nothing so likely to convey a correct impression as to say: It is the bleeding of a patient into his own capillaries. The baths are unquestionably "tonic." These effects are sometimes produced

by the first baths. Of course they are not lasting. A repetition of the bath brings about the same series of results, and ultimately, by the effects being gained over and over and over again, sometimes complete compensation in a dilated heart is achieved.

Fatty degeneration, myocarditis, the absorbable remains of recent pericardial and endocardial inflammations, angina pectoris, Graves' disease, functional disorders, and, above all, dilatation or dilatation secondary to valvular lesions, are helped by the treatment. In some instances permanent, and in others partial, restoration of muscular heart-power takes place.

Advanced arterio sclerotics, advanced Bright's cases, as well as aneurism patients, are not recommended to take the baths.

You may be sure that such mighty engines for good as these baths, in the hands of a tyro, may do irreparable harm. The time, the temperature, the amount of minerals in the water, the quantity of carbonic acid gas, the periods of repose from bathing, are all matters calling for fine, well-balanced judgment. I beg of you not to recklessly plunge all your cardiacs into thermal and sprudel baths. You must make a careful, exhaustive diagnosis as to the heart-muscle's capabilities. You must weigh every possible factor in the case. In the hands of experts these baths produce good results. In the hands of mere empiricists, men who do not strictly individualize, the baths distinctly do harm. I am impelled to utter this note of warning. I am of belief that, without a thorough knowledge of the patient to be treated, no man has a right to take the big risks of experimenting. There is not one household in a hundred where I would personally give these baths, and even then I would give the case my personal supervision in the first few baths. I would trust no one to do that work for me. The Bad Nauheim method, I think, ought, save in very exceptional cases, to be pursued in a sanatorium under the care of a specialist in cardiac diseases, and one, too, who by nature is cautious, well-balanced, judicial, and not over-enthusiastic.

The Movements.

The second great measure Schott employs in suitable cardiac cases is the so-called "resistance" movements. With the ex-

ception of not producing nearly so great capillary dilatation and a far more gradual slowing of the pulse-rate, the movements are said to produce the same effects as the baths. In some cardiacs baths alone are used; in some, movements alone; but in most cases both baths and resisted movements are employed. About a week after the baths have begun to have an effect, the movements are begun; sometimes the reverse course is pursued. Please do not think for one moment that these exercises are simple "gymnastics." The purpose of the exercises is to secure such action of muscle as will cause very little exertion and no fatigue, in order to develop and strengthen the heart-muscle. It must be remembered, too, that these movements are to be "regulated" by the patient and "resisted" by the operator.

Following is a list of the movements, and a description of the manner of executing them by the patient and of resisting them by the operator. I am almost wholly indebted to the work of Dr. W. Bezly Thorne, of London, England, for this description.

Let us consider primarily the directions to the operator.

First.—Each movement is to be performed slowly and evenly; that is, at a uniform rate.

Second.—No movement is to be repeated twice in succession in the same limb or group of muscles.

Third.—Each single or combined movement is to be followed by an interval of rest.

Fourth.—The movements are not to be allowed to accelerate the patient's breathing, and the operator must watch the face for the slightest indication of

A. Dilatation of the alæ nasi.

B. Drawing of the corners of the mouth.

C. Duskiness or pallor of the cheeks and lips.

D. Yawning.

E. Sweating.

F. Palpitation; and I may add, very emphatically,

G. Increase in the pulse-rate.

Fifth.—The appearance of either of the above signs of distress should be the signal for immediately interrupting the

movement in process of execution, and for either supporting the limb which is being moved or allowing it to subside into a state of rest.

Sixth.—The patient must be directed to breathe regularly and uninterruptedly, and should he find any difficulty in doing so, or for any reason show a tendency to hold his breath, he must be instructed to count, and continue counting, in a whisper, during the progress of each movement.

Seventh.—No limb or portion of the body is to be so constricted as to compress the vessels and check the flow of blood.

Here are the movements:

No. 1.—The arms are to be extended in front of the body on a level with the shoulder-joints, the palms of the hands meeting in front of the chest. The operator places his hands on the outer surface of the patient's wrists in such a manner that the ulnar side of the patient's wrists rests in the fork between his own thumb and forefinger. He places one foot in front of the other so that he may lean forward without overbalancing himself, while the patient's arms are carried outward until they are in line with each other and with the transverse diameter of the chest. The operator then places his hands, with a similar disposition of the thumb and forefinger, on the palmar surfaces of the patient's wrists, and offers resistance while the arms and hands are being brought back to the position from which they started.

No. 2.—The arm and hand of one side at a time are extended in the depending position, with the palm of the hand directed forward, and the operator, standing at the patient's side, places his open hand on the palmar surface of the patient's wrist, the thumb only being on the dorsal surface. The patient then flexes the forearm, without movement of the upper arm, until the fingers come in contact with the shoulder. The operator then places the palmar surface of his own hand on the dorsal surface of the wrist, and maintains it there while the flexed arm is being extended to the position from which the movement commenced.

No. 3.—The arms are extended vertically in the depending position, with the palms of the hands turned forward. After

they have been raised outward until the thumbs meet over the head, they are brought back to the original position. The operator faces the patient, and resists the upward movement on the radial side of the wrist, and the downward movement on the ulnar side.

No. 4.—The hands, with fingers flexed from the end of the first phalanx in such a manner that the second phalanges of the respective fingers of the two hands are in apposition with their fellows of the opposite side, are pressed together in front of the lower part of the abdomen. The thumbs are extended, and lie within the three sides of a rectangle formed by the flexed forefingers, and touch each other at their tips. The arms are then raised until the hands are on a level with the vertex of the head. Resistance is offered by placing the hands on the radial surface of the wrists. The movement is then reversed. Before the return movement is performed the operator changes the position of his hands so as to receive the wrists in the fork between his thumb and forefinger, the palmar surface of his fingers being applied to the palmar surface of the patient's wrists.

No. 5.—The extended arms are placed in the depending position, with the palms of the hands resting against the thighs. They are then raised in parallel planes until vertically extended. The movement is then reversed. The operator faces the patient; and, in order that he may maintain a uniform and effectual resistance, the relation of his hands to his patient's wrists must pass through the following changes: In the first position the fork between his thumb and forefinger must be applied to the radial part of the wrist. As the arms rise to an angle of 45° to the body, his fingers are around the wrist until they are lightly folded around the radial surface of the wrists. Before the reverse movement commences he receives the ulnar aspect of the wrist in the fork between his thumb and forefinger. While the arms are descending his thumbs move outward, and at the same time the fingers glide around the dorsal surface of the wrist in a direction opposite to that which his is taking, in such a manner and at such a rate that when the patient's arms are on a level with the shoulders the ulnar aspect of the wrist rests on a reversed fork formed by the radial aspect of the

operator's forefingers and the thumb pushed out to a right angle with the somewhat flexed fingers. As the hands descend towards the thigh the tips of the operator's fingers gradually glide around to the ulnar aspect of the wrist, so as to resist the downward and backward movement of the arms. This is the operator's *pons asinorum*, but it should be mastered.

No. 6.—The trunk is flexed forward, without the knees being bent, and then brought back to the erect position. The operator stands at the patient's side with one hand over the upper third of the sternum and the other supporting the mid-lumbar region. The reverse movement is resisted by placing one hand over the junction of the cervical and dorsal portions of the spine.

No. 7.—The trunk is rotated, without movement of the feet, as far as it can be carried to one side, say to the right, then to the left, and lastly brought back to face forward, as at starting. The movements are resisted by one hand being placed in front of and a little above the advancing axilla, while the other is placed over the receding shoulder. The operator must, to a limited extent, move around the patient when the second stage of rotation is being performed, and will be able to do so most evenly and securely by carrying one foot around behind the other, somewhat as is done in performing the skating "outside edge backward," before shifting the position of the other.

No. 8.—The trunk is flexed laterally, first to one side, secondly completely over to the other, and thirdly, brought back to the erect position. The operator stands in front of the patient. When the movement is to the right, his left hand is pressed against the right side of the chest in the axilla, while the right firmly supports the opposite hip, and *vice versa*.

No. 9.—This movement is identical with No. 1, with the exception that while it is being executed the fists are kept firmly clenched.

No. 10.—The arms are flexed in succession as in No. 2, with this difference, that the palmar surface is turned outward, and the fist is firmly clinched.

No. 11.—The arm is extended in the depending position, the palm of the hand lying against the thigh, and then makes a

complete revolution from the shoulder-joint, forward and upward, until it is vertically raised alongside of the ear. Before it descends backward, the palm of the hand should be turned outward. The operator stands at the patient's side, with his fingers folded around the radial side of the wrist. His other hand must be ready to receive the wrist when it reaches the vertical position, and to maintain the resistance until the arm has descended to the position for which it started. This movement is performed by one arm at a time.

No. 12.—The arms are extended vertically in the depending position, the palms of the hands resting against the thighs. They are then moved upward and backward in parallel planes as far as it is possible to do so without bending the trunk forward. The upward movement is resisted by the fork of the hand on the ulnar aspect of the wrist, the downward by folding the fingers around the radial surface.

No. 13.—The patient stands with one hand resting on a chair or table, while the thigh of the opposite side is flexed on the trunk to the extreme limit, and then extended until the feet are side by side. The leg should hang downward from the knee-joint. The upward movement is resisted by a hand placed immediately above the knee. The return may be resisted by a hand placed below the lower part of the thigh or under the sole of the foot.

No. 14.—The patient, supporting himself with one hand, as in the last movement, bends the whole extended lower extremities in succession, first forward to the extreme limit of movement, then backward to the same degree, and finally brings the one foot alongside of the other. The forward movements are resisted in front of and above the ankle, and the backward movement behind.

No. 15.—The patient, supported in front by a chair or table, stands on either foot in succession, while the leg of the other side is flexed on the thigh. The upward movement is resisted by pressure on the heel, the return movement above the instep.

No. 16.—The patient, resting one hand on a chair, and standing on the foot of the same side, raises the extended lower extremities in succession outward, from the hip-joint, and then

reverses the movement. The operator resists by means of one hand placed above the ankle.

No. 17.—The arms, extended horizontally outward, are rotated from the shoulder-joints to the extreme limits forward and backward. The movements may be resisted by the operator grasping the ulnar edge of the metacarpal portion of the hand, or by closing his thumb and forefinger in a ring around the wrist.

No. 18.—The hands, in succession, are first extended, then flexed on the forearm to the extreme limits, and lastly brought into line with the arm. The operator's one hand supports the wrist, while the other resists the movements at the metacarpal phalangeal junction, first on the dorsal, secondly on the palmar, and thirdly again on the dorsal surface.

No. 19.—The feet, in succession, are flexed and extended to the extreme limits, and then brought back to their natural position. The movements are resisted in the dorsal and plantar surfaces, at about the level of the metatarso-phalangeal joints.

These are the movements, then. But the physician must direct the time required, the amount of resistance offered, and, in fact, should be at the first seance himself, and oftener, if required. Each case must be individualized. Patients in bed can take but few movements, and massage may be ordered. Massage, however, is a poor substitute for the Schott movements. Massage does some little good, and may assist in getting the patient into such a condition that the movements proper can be commenced. An exhaustive examination of the patient must be made, and an accurate diagnosis formulated. The movements may produce rapid, even fatal, syncope in patients who have a serious impediment to the quick filling of the arteries and capillaries expanded by the exercises. Such an accident is most likely to occur in cases of advanced emphysema, with great obstruction in the pulmonary circuit from an obliteration of blood-vessels or an intercurrent attack of asthma. In aortic stenosis, if grave, great care must be exercised. There is here, as you are only too well aware, an obstruction to the rapid outflow of blood into the systemic circulation. In such instances the movements should be executed with snail-like slowness, and the resistance offered the patient be scarcely

appreciated, barely the weight of the hand lightly touching the proper part. The interval of rest between the movements must also be considerably more than in ordinary cases of dilated heart. The cardiac apparatus, heart and vessels, must be allowed time to accommodate itself to the new order of things induced by the movements. Recumbency should, in some instances, be insisted upon, particularly if cerebral anæmia be apprehended. In great distention of the right heart, downward movements of the upper extremities from above the head should at first be proscribed. Gravity would assist in redistending the ventricle and so defeat the object of the movements.

Most emphatically I assert that these movements, improperly applied, can do incalculable harm. On no account should they ever be given a patient save at a physician's recommendation, and then only after a careful and exhaustive consideration of all the factors in the case. A nurse, acquainted with the movements, who dares to give them unprescribed, deserves to be cut and quartered. We have had too much damage done by self-opinionated nurses. To give these movements to every case of "heart disease" indiscriminately is more than likely to result in doing more harm than good, and, besides, will lead to the condemnation of a method that, properly applied, is one of the great discoveries of the age.

If possible, train your assistants yourself. Not every one makes a good operator. A really first-class operator is a scarce article even at Bad Nauheim, as I personally know. A fellow who goes through the movements without "brains" will not do. An operator must have good judgment, keen powers of observation and fine manipulative tact, and he must not have an "acromegalic" cranium.

When one has become thoroughly versed in giving and taking the movements, in other words, not only acting as a patient, but also as an operator, it is possible to give oneself the movements by means of "self-resistance" of opposing muscles, thus doing away with an operator. It must be remembered, however, that an operator is always to be preferred when one can be secured. The self-resistance is brought about by hardening the muscles which are to be exercised. In a little while one

can at will produce sufficient muscle firmness to bring about fairly good results.

In closing, let me briefly say that the chief indication for the baths and movements is incompetency of the cardiac muscle, and the chief injunction is extreme caution.

The method ought not to be considered a miracle-worker, but a valuable addition to the means of treating certain cardiac diseases, far surpassing, in many cases, the ordinary treatment by drugs alone.

CARBUNCLE (ANTHRAX).

PEARL STARR, M.D., BELLEVUE.

Carbuncle, or anthrax, is a disease common to all countries, although more malignant in some localities, and in some of the foreign countries, than in others.

Carbuncle, or anthrax, is a circumscribed gangrenous inflammation of the integument and subcutaneous tissues, terminating in slough. Usually located along the spine; most frequently on the back of the neck; occasionally on other parts of the body. Is especially dangerous, when located upon the neck or face, from suppurative phlebitis and septic thrombi passing to the sinuses of the skull.

Some authors class the furuncle, or boil, and the carbuncle, or anthrax, together, claiming they differ only in degree and the age of the person attacked, the furuncle appearing in the young and the carbuncle in middle life or among aged persons.

The cause is obscure. There is a class of individuals that are disposed to this class of diseases, as there are others disposed to fevers and other diseases.

Carbuncles and furuncles are more frequent among males.

Plethora, in which the system is surcharged with effete material, or an anæmic condition in which the vital forces are unable to carry off the waste products of the system—these may be the predisposing causes.

In the year 1893 or 1894, after a long, dry spell, the water in the cisterns and wells ran very low, and many persons had neglected having their cisterns cleaned out for several years, and the water became foul. That year was followed by an epidemic of this class of diseases.

I think I may say that, without exception, those cases that have come under my care could, after investigation, be attributed to no other cause than impure water, and that has, without exception, been found impure.

Bacteriologists claim that the ingestion of diseased meat, an abrasion of the skin, or direct contact, will communicate the bacteria; also that the disease may be carried by flies, the infection taking place through the integument. A sting of an insect or a bruise may determine the location; also an abrasion.

This disease is not contagious from individual to individual.

It is more frequently found among those associated with animals, and handling the hair, hides, etc., of animals.

The premonitory symptoms may be malaise or lassitude for some time previous to local manifestations, although this is not always present. The first thing the patient may notice may be a severe pain and some tenderness over the spot, or it may be an intense itching, or a sensation as of an insect's sting, or merely a pricking. Frequently the patient thinks there must be something pricking him, as a needle or pin. After a few hours the part assumes an inflamed appearance; the pain and inflammation increase, the climax being reached in from ten days to two weeks. At this time the carbuncle will measure from four to six inches in diameter, and often more; is of a purplish hue, indurated, having several suppurating openings, intensely painful. (There may be anæsthesia of the parts, which occasionally occurs.) The discharge is a bloody pus, containing shreds of tissue.

The temperature of the body may be from two to four degrees above normal. The fever gradually abates after the flow of pus is established. Anorexia usually accompanies the other symptoms; the opposite would be favorable; weakness and in-

somnia; this latter condition more from intense pain than otherwise.

Frequently the first severe pain is followed by anæsthesia.

Carbuncles are especially dangerous when associated with diabetes, scrofulous, tubercular or syphilitic diathesis.

This disease frequently proves fatal, especially among the aged and debilitated persons. After recovery from this class of disease we usually find the patients enjoying better health than for some time previous.

There is a wide diversity of opinion as to the treatment of carbuncles.

A large percentage of physicians and surgeons advocate the early free incision through the centre of the inflamed mass, the diseased tissues to be thoroughly removed by the curette, after which antiseptic dressings are to be applied. This to be done with the patient under the influence of an anæsthetic; otherwise the pain and shock would be so great as to do injury.

This method, it is claimed by its advocates, lessens the extent, lessens the pain, and shortens the time of the disease.

Dr. S. G. A. Brown, in the *Hahnemannian Monthly* for March, 1898, relates his experience with incision, and quotes Dr. Wm. Tod Helmuth as saying: "I have my doubts with reference to these free incisions. I have yet to discover that *decided* benefit accrued from free incisions to prevent spreading." Yet if the theory be true that the spread of the disease is due to micro-organisms flourishing in sloughs, should not the *thorough curetting, followed by the most careful antiseptic treatment known*, have ended the trouble then and there?

Then, again, the free incisions do not give the relief to pain they are supposed to do. The parts do not heal as quickly. (Dr. Brown.)

The actual cautery is highly recommended, but it must be used thoroughly.

Dr. T. Griswold Comstock, of St. Louis, recommends the galvano-electric cautery, with the help of the "acme alternating current controller," in destroying carbuncles, and the dressing with orthoform to allay the pain. (*Medical Visitor*, June, 1898, pp. 275 and 277.)

Hypodermic injections of crude carbolic acid, nitrate of silver, ethereal iodoform and iodine have been advised, together with an application of a strong solution of bichloride of mercury; but it is claimed they are non-effective.

A minority of physicians cling to the old method of treatment by poultices, of which a variety have been used—soap poultice, spice poultice, slippery elm; last, but not least, the *flaxseed meal.* These are applied medicated and non-medicated, as the physician deems best. Red precipitate, pulverized charcoal, vaseline, and many other drugs and ointments have been used. After suppuration supervenes, then boric acid, calendula, iodoform, peroxide of hydrogen, Listerine, formalin, iatrol have been recommended; glutol, also, for packing.

For internal medication, the leading remedies are arsenicum, lachesis, tarantula, anthracinum, silicea, rhus tox., carbo. veg.

Arsenicum has the intense burning, cutting, lancinating pains, with aggravations after midnight; irritability of body and mind; carbuncles and boils, with pepper-box openings in them, and dipping deeply into the cellular tissues.

Lachesis.—A bluish, purplish appearance; cerebral symptoms.

Tarantula Cubensis.—The hairy spider causes a perfect picture of carbuncle, even to sloughing. It may be used effectually when there is great prostration and diarrhœa, with intermitting fever of evening exacerbation. In relieving the atrocious pains accompanying this condition it acts like magic. It, therefore, should be compared with lachesis, anthracinum and silicea (Farrington).

Rhus is indicated in the beginning, when the pains are intense and the affected parts are dark red. If given early, rhus may abort the whole trouble.

Carbo Veg.—A bluish or livid color; foulness of discharges.

Anthracinum.—When the pains are burning; not relieved by arsenicum; cerebral symptoms; absorption of pus into the blood; gangrenous destruction.

A carbuncle on the back of a man some 60 years old had attained a size of nine inches in length and five inches in its greatest width; there was sloughing, abundant ichorous discharge, terribly smelling pus, and poisoning of the blood by the

absorption of pus. Arsenicum had no beneficial effect; anthracinum relieved at once. Ever since, I have given anthracinum in several cases where there were symptoms of the same destructive character, with the same beneficial results (Raue).

Of carbuncles, the following are some that came under my especial care:

Two were located upon the back, over the lumbar region —one on a man 75 years old, the other on a man between 30 and 40 years.

Two were located just below the axilla of the right side; both patients were females.

One on the left arm just below the elbow-joint. The cavity, from destruction of tissue, would have held an ordinary-sized egg. Fears of hæmorrhage were entertained from destruction of blood-vessels.

The principal remedies were ars. and silicea, and as soon as possible passive motion was administered, to prevent stiffness of the joint. The patient, a female, made a thorough recovery, and has since enjoyed much better health than for several years previous.

The most extensive case was one that came under observation the past winter.

Late one evening a gentleman about 35 called to ask advice in regard to the condition of his hand; he thought he might have run a sliver into the hand, but could find nothing. Nothing was discovered; he was given some salve and requested to report in a day or two, and if possible in daylight.

On the third day a message came to call at his home. The patient was in bed, his hand swollen to two or three times its normal size. There had also appeared a hard, purplish lump on the outer side of his right thigh, midway between the trochanter and knee-joint, which was at once recognized as a carbuncle. There was intense pain in the hand and arm, but none in the limb. The patient had spent a sleepless night. The pain was of an intense, burning character. Temperature 102°. The hand hard and hot; also the tumor on the limb. Arsenicum 6x was given; flaxseed meal poultices smeared with vaseline applied locally.

The climax was reached within a week. A point between the second and third metacarpal joints softened, fluctuation was discovered, and the point incised. It discharged freely of pus and shreds; later the abscess formed a pocket on the dorsum of the hand between the third and little finger, which was incised and discharged freely; later another formation was formed over the wrist-joint, which was also opened as soon as fluctuation could be detected. In the meantime the carbuncle on the limb developed several suppurating points which were discharging pus and shreds freely. The hand and limb were sprayed thoroughly once a day with peroxide of hydrogen, and later several times a day with a saturated solution of boracic acid. When the odor became foul, pulverized charcoal was sprinkled upon the poultices and carbo veg., 12x, given internally; after the odor disappeared and the pus became less profuse the cavities were packed with boracic acid and covered with antiseptic cotton.

The cavity in the limb, from destruction of tissue, would have held an egg.

The case was under care about four weeks. The patient felt well, and would have been able to get around sooner but for the hæmorrhage from the limb which followed any effort of walking or moving the limb.

The hand and limb both being of the right side prevented the use of a crutch or cane to remove weight and strain on the muscles. The second finger at one time assumed a livid appearance, but after the use of carbo veg. internally and charcoal (powdered) locally it became normal.

As soon as the tumefaction was reduced to permit, passive motion of all the joints implicated was given at least once a day. There were fully three pints of pus thrown off from the two abscesses.

The appetite continued good and the functions of the body normal.

Six months afterwards the patient reports, "Never felt better in my life, and can use my hand for almost everything." Although there is some stiffness, there is no deformity. The limb healed perfectly.

In the light of past experience, and after comparing the results from different writers, advocates of early incision, my judgment would lead me to follow the expectant method, depending upon the *indicated* homœopathic remedy, with the local applications of poultices to ease the pain, and antiseptic dressings, and, if necessary, some anodyne during the intense pain.

DISCUSSION.

Dr. A. P. Bowie: I have listened to this paper with a great deal of pleasure, and, so far as my experience goes, I can endorse all the Doctor says as to the treatment of carbuncle. I think this plan of treating carbuncles with early incision, and scraping or curetting them, as it is called nowadays, is the worst treatment we can have. I think if we can study the case, get the homœopathic remedy and use the local applications named here, that is the best treatment. Others may have their views of the matter, but that has been my experience, and I have had a number of cases similar to the one detailed here tonight.

Dr. Theo. J. Gramm: I never hear the subject of anthrax mentioned but that I think of a case that I possibly may have referred to in this Society before. It was one of extreme interest by reason of the fact that I think I was able to trace the infection in the second patient as coming from the first patient, and the infection took place in a very curious way. The circumstances are about as follows: There was a woman whose husband had a grocery store, in which she was likewise engaged. In stepping from a high stool about a foot or more from the ground into a large ice-box she wounded her leg. In this ice-box, which was rather a large one, there were very frequently hung carcasses of mutton and quarters of beef. A number of days after she injured herself I was called in to see the case. She exhibited the characteristic appearances of carbuncle that have been described. I treated her and she became well. I should say, however, that before I saw her she bathed the leg with homœopathic arnica tincture, which is not a very strong alcoholic solution, you will remember, and after she kept on bathing by moistening her fingers from the bottle

she applied the solution to the inflamed place on her leg. That was the first case. After she had been well for some time, there was a young woman confined in the house and delivered of a child. She afterwards had an inflammation of her breast, and this same bottle of arnica, which was in a filthy condition about the neck around the cork, was used, and the solution therefrom applied the same way to the breast of this young parturient woman. She was evidently developing a mastitis, and they thought that the homœopathic solution of arnica would be the proper application. A number of days after using this lotion she sent for me, and my first sight of this inflammation on the breast showed me that we did not have to deal with an ordinary case of mastitis in any of its three forms, but I was struck with the remarkable localized appearance and evidence of very rapid opening of the inflamed area. My very first questions led me to endeavor to find out how this woman could get such an inflammation of this character on her breast. It was quite different from anything I had seen in the way of an inflamed mamma, and on inquiry I found that she had applied to her breast the same solution that the other woman had applied to her leg. I imagined that a fairly safe judgment to make was, that the infection in the second case took place from the first one. The area of the inflammation on the breast was almost identically the same as that on the leg of the former woman; the case was treated with antiseptic lotions and exhibition of the iodide of arsenic.

I cannot agree very largely with the treatment suggested with reference to the application of poultices; I cannot think that that is good surgery. There is, however, one application that was referred to which I did think would hardly come under the name of poultice, and yet I suppose it might possibly be called so in view of the fact that it is a wet solution of a powder—that is, powdered charcoal. I have seen beneficial results from the application of powdered moistened charcoal. It is an antiseptic, and with that exception I do not agree with the application of the poultice as has been recommended.

Dr. L. T. Ashcraft: I agree with the Doctor, except as regards the poultices. In my opinion the poultice is the worst

thing that can possibly be applied to any inflamed area, no matter where it is. I have not only seen evil effects resulting from the application of poultices in carbuncles, but in a case of palmar abscess, I have seen the application of a poultice start an inflammation up the arm to such an extent that amputation was imminent. So far as the treatment of carbuncle is concerned, I advocate early and free incision under an anæsthetic, as the Doctor mentioned, and subsequent treatment by curetting and the application of bichloride solution of mercury, or perhaps, a 1 per cent. solution of formalin. Those of us who work in this branch of surgery or medicine very often come in contact with infected wounds, and have them on our own hands; very frequently I have become infected with a mild sort of a furuncle. I am positive that the application of 1 per cent. of formalin quickly relieved that condition. Only the other day I had a sore on my little finger, and with the application of formalin it was cured. I remember treating a case some time ago, in connection with a doctor, where we saw the evil effects of the poultice. We had to dissect down and wash with peroxide of hydrogen, and eventually seek the advice of a surgeon more skilled than myself, who amputated high up, the patient dying the next day, and this was due to a poultice.

A poultice will relieve pain but, in my opinion it causes an extensive inflammation, and should be judged as a surgical crime!

Dr. R. C. Pitcairn: There is one thing that we always apply here, and that is crude carbolic acid; if the carbuncle is small, we swab the interior of the lesion with it. At present we have a patient with carbuncle, about 5.5 inches. In that case we burned it out with crude carbolic acid, and then applied a 5 per cent. solution of carbolic acid on compresses.

Dr. C. P. Seip: We have recently had several very severe cases of carbuncle to treat, and I have some remarks to make about poulticing carbuncles. "Poultice" is rather a vague term, as it is ordinarily understood. In large carbuncles, where we have much suffering, assuming that these cases have not come under our observation before, we apply a charcoal poultice; a poultice is even applied where you have an old sloughing con-

dition. But I tell you, sir, when you have a sloughing surface, whether from a carbuncle or any other cause, the charcoal poultice, in my estimation, is one of the best things that can be applied; so that when they say a poultice shall not be applied, I say there is a time it will do good and a time when it will do harm; but in all sloughing surfaces, and especially in carbuncle, I know nothing that will do more good and give relief (not excepting formalin) than the charcoal poultice. We must consider one fact in the treatment of all these cases, and that is that in the majority of cases of severe carbuncle the urine should always be examined. Recently we had the misfortune to have a gentleman in this hospital who was from Philadelphia, a man weighing perhaps 300 pounds, enormously troubled with obesity; he was in this hospital for ten days, suffering with a carbuncle. I think the pathologist reported that there was 10 per cent. of sugar in the urine. The man eventually died, as was expected, but there was nothing that gave that man, during the last few days of his life, more relief from his intense suffering than the charcoal poultice; and in the treatment of all these cases I think it is just as essential to pay strict attention to the condition of the urine, because many of these patients suffer from diabetes, and we have not only the condition of the carbuncle to look after, but the condition of the urine. There is no doubt that in the majority of cases where poultices are applied they should not be, but that does not give a person any idea of the cases in which they should be applied; and I believe that in the majority of cases, as I said before, where there is much sloughing, there is nothing that will do more good than the charcoal poultice.

A CASE OF PROGRESSIVE MUSCULAR DYSTROPHY.

E. H. VAN DEUSEN, M.D., PHILADELPHIA.

Mrs. M. F. became my patient in 1881. I had known her since 1870. She was born in 1836. Her father died of pulmonary tuberculosis in 1851, at the age of forty-three. Her mother came of very hardy stock, and is still, at eighty-five years, a very vigorous woman, both mentally and physically. Mrs. M. F. in her youth was active and energetic, although always slender. She developed a cough when she was about eighteen years old, and her friends thought her consumptive. She was then engaged in school teaching. She afterward married, and four children were born to her, in 1860, 1862, 1863, 1868, respectively. The last child was born in February, and the muscular weakness was first noticed in the following November. From 1860 to 1868 she had been in much better health than in the years before. Her general health continued good until a few days before her death, in 1895, which was due to acute pneumonia. At my request she wrote for me, in 1885, the following statement:

"In November, 1868, I first noticed that I could not fully extend the second and third fingers of each hand. In January, 1870, the above difficulty having increased and extended to the other fingers, I called the attention of Dr. Dallam to it. Dr. Dallam happened to be attending another member of the family at the time. He from time to time gave cannabis indica, and ordered croton oil to be used on the muscles of the forearm as a counter-irritant. Then he recommended the use of a battery, which I did for six months. As the disease continued to increase, he recommended, in 1872, that I should see Dr. D. Hayes Agnew. Dr. Agnew pronounced it a case of reflex paralysis, caused, undoubtedly, by a fall down stairs which I had had eight years before. I slipped down the stairway, striking the end of my spine on every step. Tenderness persisted on

pressure for a year or more. Dr. Agnew said the paralysis was caused by concussion. He recommended electricity, but not to be applied by myself—only by a specialist. At his recommendation I went to Dr. M. Grier. For one year I was treated by him with electricity three times a week, the disease slowly but steadily increasing. In 1873 I consulted Dr. Agnew again, and for eight months I was under an internal treatment. The first half of that period I took Donovan's solution, and the other prescription contained strychnia.

"In the spring of 1874 I consulted Dr. Samuel D. Gross, and was under his treatment three or four months. His prescriptions were very similar to those of Dr. Agnew, strychnia appearing to be the principal drug. In addition, Dr. Gross recommended plunging my arms in hot water for a few minutes night and morning, and then have some one with a towel wrung out of cold water strike every part of the red surface with the fringe of the towel, snapping it in a quick, sharp manner. Then an ointment prepared from his prescription was to be rubbed in, and also to be rubbed down the spine. I do not remember what drug was in the ointment, but it was of such a nature that the Doctor told me to wear gloves at night for fear I might accidentally put my fingers to my eyes, and the result might be loss of sight. He also ordered lemonade (the juice of one lemon) drank immediately on rising in the morning. His treatment began to unfavorably affect my general health, and I ceased going to him. He, as well as Dr. Agnew and Dr. Grier, thought the paralysis the result of the fall of which I have spoken.

"In the summer of 1874 I saw Dr. Thomas, near Boston. He thought the disease resulted from the fall. . . . . His opinion was that medicine would have no effect. . . . . He thought the injury had spent itself, as I had not noticed any material change for some time. The latter opinion proved to be incorrect.

"In the winter of '75–'76 I went to Dr. Ellwood Wilson, on Sixteenth street. He thought I had not taken enough strychnia, so he gave me a prescription (strychnia and quinine the principal components), but after taking two of the pills (I was to take three a day) I had such roaring noises in my ears,

nausea, sensation of being pulled backward at the back of my head, etc., that I went to him again, and he said to take but two a day. He also ordered my spine to be painted with iodine twice a day. The latter directions I followed for several weeks, but never went again for medicine. . . . . He told me that if I had not taken enough strychnia to cause involuntary jerkings of the muscles of the limbs I had not taken sufficient.

"Shortly afterward I went to consult Dr. Wm. H. Pancoast (just to get his opinion in regard to the curability of the case). He thought I might be cured. He advised camphor liniment for a while, then to try dry cupping to the spine, and if these did not suffice, to try something more severe, which I judged to be the red-hot iron, from what he had been telling me of a case of spinal trouble. . . . . I faithfully followed his directions only as to the liniment and dry cupping.

"About 1877 or 1878, having had dull pain in both arms for about three months almost continuously, I consulted Dr. Francis Sims (homœopathist)—the first time I had ever tried anything but allopathic treatment for my trouble. In two or three weeks the pain had entirely left, and has never returned. This was the first time . . . . that remedies ever showed the slightest effect. . . . . I took copper in various forms, but with no benefit, ... for about three years, until his death. He said it would be a triumph for homœopathy if it effected a cure. He acknowledged that it was a very peculiar case, that he had never seen or read of one just like it, and finally even began to doubt whether the disease was caused by the fall, as every remedy given had failed to make the slightest impression, and that perhaps they had all been working in the dark, and had failed to find the cause of the disease."

The foregoing statement throws no light on the progress of the disease and is of no value as a history of the case. It, however, is exceedingly interesting as the record of the opinions of an obscure condition expressed through the patient by some of the greatest physicians this country has known.

The progress of the case covered a long period—from November, or earlier, in 1868, to March, 1895. The first evidence of paralysis, as stated, was an inability to fully extend the second

and third fingers of each hand. This was discovered while playing the piano. The loss of power very gradually increased, and extended to the other fingers, being always bilaterally symmetrical. In two years' time the extensor muscles of the forearms were so much affected as to occasion wrist-drop, and a consequent but fruitless search for lead as a cause of the disease. At about the same time there was a noticeable loss of power in the quadriceps extensor femoris muscles. One after another the various groups of muscles lost power, until in 1895 the voluntary muscles seemed to be all but powerless. Perhaps the biceps of the arms and the flexor muscles of the thigh were the least powerless. The patient was able to feed herself after the food was prepared. She used a pickle-fork about twelve inches long. In raising a cup to her lips she grasped the saucer with her right hand, and with her left hand under the right elbow and a forward inclination of the head, she was able to make the half-filled cup meet her lips.

She could write. She was a rapid and an excellent penman, and her writing in 1895 was not distinguishable from that of 1865. Writing seemed not to tire her. She did the correspondence of the household. She kept all accounts. She kept a tabulated list of all books she had read, and a synopsis of each. She probably wrote two hours every day. There was little else she could do. Reading, writing, talking and eating completed the circle of her daily experience. Her grasp of the pen was so weak that the slightest touch would knock it from her hand. Her mental faculties never showed the slightest sign of impairment. The co-ordination of her muscles was always perfect. Her muscular sense seemed to be even exaggerated. There never was any alteration of sensation. If raised to the upright position and allowed to become perfectly balanced she could stand. She could even progress, but not forward or backward. The use of the adductors and abductors of the thighs enabled her to move a few steps to the right or left.

When being carried in her chair she was always over-conscious of any tilting to the right or left, or forward or backward. The order in which the muscle groups became affected was about as follows:

The extensors of the hands, the extensors of the legs, the deltoids, the extensors of the forearms, the muscles which fix and elevate the scapula, the flexors of the hands, the flexors of the neck (sterno-cleido-mastoidei), the muscles of the abdomen, and last of all and least of all, the flexors of the forearm (biceps), the flexors of the legs, and the muscles which support the spinal column.

From the beginning to the end the progress of the motor paralysis was slow but steady and constant. Twice there seemed to be an improvement. The wrist-drop, after persisting for a year or more, gradually disappeared, but only because the flexors of the hands, which had antagonized the extensors, had become weakened. The same thing occurred in the neck. There was a time when, if she inclined her head backward to look directly upward, she remained in that position until some one came to her assistance, unless the back of her chair was high enough to enable her, by slipping forward on the seat, to push her head upward with the back of the chair. This very uncomfortable condition of affairs passed away when the muscles of the back of the neck had become so weakened as to be unable to successfully resist the performance of the function of the anterior muscles.

Probably in the first ten years or less all the muscles had become affected, and subsequently there was a very gradual advance of a disease existing in every muscle of the organism.

A few years after the commencement of the disease the patient's general health had decidedly improved. She had gained in weight, probably twenty pounds. There were no disproportionate parts, but all the muscles, as well as the parts about joints, had increased in size. The shoulders had become more sloping, from a drooping of the scapulæ. She occasionally developed a cough from alterations of temperature during the night, since she was unable for the last ten years to change either her own position or that of the bedclothing. Her cough was hollow and seemed to require a great effort, and was accompanied by intense redness of the face and neck. This redness also appeared with every slight emotion, either of pleasure or annoyance. As the redness subsided it left the skin mot-

tled purple, red and pink, gradually fading to the usual good healthy color. Any difficult exertion, such even as putting on her glasses, or reaching for her pen, if not at hand, would to a greater or less extent occasion the same phenomenon.

During the whole period of the disease she had very few symptoms other than those due to the loss of power. For several months, as mentioned, she had aching pains in both arms. For several years she had almost constantly a cracked condition of the skin and mucous membrane at the corners of the mouth. This was worse in cold weather. She took nitric acid 6 for several months, and the symptoms disappeared and did not return.

She occasionally complained of indigestion at night, and as the discomfort was relieved by whiskey she developed the habit of taking it usually just before bedtime. For several years before her death she probably drank in this way from eight to ten quarts of whiskey a year.

At no time was there the slightest evidence of mental impairment, or even of alteration of her disposition. She submitted not resignedly but contentedly to her limitations.

It will be of interest to mention, as an addition to the patient's written statement, that during the period from 1885 until her death she saw in consultation two physicians eminent in diseases of the nervous system. One is affiliated with the Homœopathic School and the other with the Old School. The treatment of each was followed faithfully, and was equally unavailing. Each made a careful, painstaking examination. Each found sensation normal. Each found the reflexes wanting. Each found the quantitative electrical contractibility proportionate to the voluntary control. Each found entire absence of any affection of the sphincters of the bladder and rectum. Each was convinced that there had been no fibrillary twitchings. One elicited the reaction of degeneration. The other, two years before, had been unable to do so. Both recognized the progressive character of the paralysis. Both failed to find any evidence of heredity or the existence of the disease in other members of the family.

The opinions formed by the two men were diametrically

opposite. One declared that there was no evidence of disease of the motor tracts in the cord, and the other made a definite diagnosis of poliomyelitis anterior chronica.

Dr. Jacoby, in the article "Diseases of the Muscles," in *Dercum's Nervous Diseases*, by American authors (1895), writes upon the subject thus:

"Differentially, the affections (various types of progressive muscular dystrophy) must, above all, be separated from the spinal form of muscular atrophy. If we remember (1) that the latter rarely shows any heredity, (2) that the onset is usually late in life, after adult age has been reached, (3) that it usually commences in the small muscles of the hand, progresses to the forearm, upper arm and body, affecting the lower extremities only very late, (4) that hypertrophy is never present and (5) fibrillation nearly always, and (6) that the atrophied muscles show the reaction of degeneration, then muscular and spinal atrophies will only rarely be confounded."

Of the six points mentioned as characteristic of the spinal form of atrophy, five could readily be applied to the case under consideration.

Dr. Dana, in his *Text-book of Nervous Diseases*, page 313, writes: "In the muscular dystrophies there is commonly (1) a history of heredity, (2) the disease begins in childhood or adolescence, (3) it attacks the lower limbs oftener, (4) it is slower in progress, (5) there are no fibrillary twitchings, and (6) the degeneration reaction does not occur."

These statements will serve to point out the difficulties in the way of a correct ante-mortem diagnosis of the case. In 1895 the patient developed a pneumonia which resulted fatally.

A very careful autopsy was made by Dr. Carl V. Vischer. The development of subcuticular fat was considerable, being more than an inch on both chest and abdomen.

The heart was normal in size, but in such an advanced state of fatty change that with very slight pressure the finger could be pushed through the walls at any point.

Both lungs were the seat of a pneumonia, more recent in one than in the other. Both apices contained contracted scars, the larger in the right lung.

The diaphragm and the bladder and intestinal walls were decidedly thinner than normal.

The muscles, when cut across, presented a startling appearance. Their size and form were retained, but there was no color of muscle. Macroscopically, the fatty metamorphosis seemed almost complete. Careful inspection was necessary to discover any muscle fibres. The change was least advanced in the anterior tibials, the muscles of the posterior aspect of the thigh and the biceps of the arms. The spinal cord was removed entire by eviscerating and chiselling off the bodies of the vertebræ. Macroscopically, it presented no deviation from the normal appearance. Microscopically, also, the sections of various parts of the cord were found to be normal, except that in the cervical region the vessel-walls presented evidence of moderate atheroma.

The median and sciatic nerves were examined and found normal. In the sections of the muscles "microscopically the myocin was everywhere degenerated, the degree of change being varied. The greater number of fibres were granular, the granules being here and there fused, forming droplets. Some fibres showed the longitudinal striations described by Erb, and this condition coexisted with the transverse markings. Numerous sarcolemma sheaths were observed which contained no muscular substance whatever, the myocin evidently having undergone complete destruction."*

No examination of the brain was made.

We have here a case in which the only departure from health is the slow, persistent, progressive, degenerate metamorphosis of all the muscles. Whether the primary disease was in the muscle or in the theoretically probably but practically undemonstrated trophic centres is indeterminate. It is even conceivable that the fault lay somewhere in the hæmatopoietic department of the economy, and that, consequently, the pabulum necessary for muscle nutrition was for years not supplied in

* The microscopic examination was made by Dr. J. R. Hunt and confirmed by Dr. C. W. Burr, and the case was reported by F. S. Pearce in the *University Magazine* for May, 1896. The importance of the case from a therapeutic standpoint is one among several reasons warranting a report from another source.

the requisite quantity and quality. While the settlement of these questions would be of immense advantage, we are not permitted to await this event before commencing treatment.

In this case the patient received massage, electricity, light gymnastics, counter-irritation to the muscles, counter-irritation to the spine, application of heat and cold, and such drugs as strychnia, quinine, arsenic, iodide of potash, and mercury in large doses; and in smaller doses, lead, copper, nitrate of silver, etc. Nothing appeared to check in any degree the progress of the disease. It was like the rising of the tide.

Ante-mortem, the case was one of tremendous difficulty to both the diagnostician and the therapeutist. The autopsy has cleared all doubt concerning the diagnosis, and has presented a very strong hint as to treatment. If we will study our drugs from a pathological standpoint, and study this disease from a pathological standpoint, we will be astonished to find how close is the analogy between phosphorus effects and the progressive muscular dystrophies. The necrotic and gastro-intestinal effects (except the fatty degeneration of the gastro-intestinal walls) are local and acute effects. The disintegration of the blood, and consequent hæmorrhages, are more or less acute effects of large doses. The chronic effects of phosphorus are, in the main, fatty metamorphosis of glands and striped and unstriped muscles. No premeditated proving would ever be carried to the extent of fatty degeneration, and all other reports must necessarily be of crude effects. Therefore we would not be likely to get from either phosphorus provings or poisonings a symptomatological picture of muscular dystrophy. However, if we need a text-book excuse for the prescription, we will find, upon reading phosphorus in any materia medica, a superabundance, and not a paucity, of corresponding symptoms.

A slowly progressive paralysis without wasting of the affected muscles, without sensory disturbance, without implication of the sphincters of the rectum or bladder, without fibrillary twitchings, and without exaggeration of the deep reflexes, is probably myopathic, and not myelopathic, in origin. In such a case phosphorus (not lower than the sixth decimal attenuation) used for months is a remedy well worth trying, in the

hope of checking the further progress of the disease, and of even restoring the impaired function. Electricity, massage, active and passive movements, heat and cold would be valuable adjuvants.

THE SANATORY TREATMENT OF MELANCHOLIA AND NEURASTHENIA.

ROBERT WALTER, M.D., WALTER'S PARK.

My experience with these ailments began with personal invalidism more than forty years ago. At that time, after some years of experiment, I was abandoned by the profession as hopelessly incurable with insomnia, nervousness, great debility, generally referred to an organic disease of the heart as the immediate cause. Soon afterward it was my fortune, good or bad, as you choose, to be engaged in observing the operation of processes employed for the relief of invalids, of which I was one, whose complaints were chiefly nervous weaknesses. For several years one hundred or more cases, in varied stages of development, were daily before me, so that I had rare opportunities for forming conclusions, both as to the nature of the ailments and the value of the methods employed for their cure. One of the most important of these conclusions was that if prevailing methods by tonics, stimulants, and nervines were continued much longer the profession would reap a rich harvest of nervous diseases, corresponding to the harvest of blood and bowel diseases it had unwittingly secured through bleeding and purging. We have not been disappointed. Hahnemann taught the same truth. What cures disease is capable of producing them; what produces diseases may, when properly administered, cure them. The alarming increase of nervous diseases is a fact about which there can be no dispute. One of the most interesting of all questions to the physician is:

How Best to Prevent and Cure Them. The old German physician's advice to the importunate invalid, who insisted

upon a prescription from him, is clearly applicable here. "Do different, sir; do different." Remove the cause and the effect will cease. It was Hahnemann who taught that vital force performs the functions of the organism in both health and disease, and that disease is simply disturbed vital action. The human machine was made to run successfully, pleasantly, easily, and will continue to do so if occasions for deranged action are not suffered. These occasions for deranged, perverted or deficient action may be summed up in two words, obstruction and exhaustion. Melancholia, we shall see, is dependent chiefly upon the former, while neurasthenia represents, in addition, exhaustion of the nervous forces. But in all cases obstruction is a necessary element of disease, no matter what the form.

What do we mean by obstruction? We mean that the materials introduced into the organism have not been properly changed into blood and tissue and the resulting elements have not been eliminated. The ingesta has exceeded the egesta. The consequence is that the vital organs are overburdened with materials they cannot use, the circulation engaged in transporting these materials is correspondingly impeded, nutrition substantially suspended, and excretion reduced to a very low margin. Is it any wonder that the patient should be depressed in mind? —all his functions are depressed. No wonder that he becomes weak and worried, timid and sleepless; the sustaining power has been withdrawn.

The source and cause of these obstructions is a matter of great importance. The air we breathe, the fluid we drink, and the food we eat, yield to the living organism all materials, and whether these materials shall obstruct or facilitate vital processes depends entirely upon the ability of the organism to use them. Air and water are diluents, cleansers, vehicles of transportation, the great natural agents for removing obstructions; we cannot easily have too much of them if they are pure. It is food that supplies the solid materials for organization, and when used in excess becomes the source of vital obstruction. The quantity eaten should correspond to the ability of the organism to change, appropriate and finally

excrete it. What mouth and nose take in, lungs, skin, kidneys, bowels must cast out. The capacity is limited in all cases; it were well if physicians could appreciate these limitations. What the system can appropriate should be supplied; what it cannot use should be withheld. To every man according to his capacity is the rule; to exceed that capacity is to threaten its extinction. Let the prayer of Agur be ours: "Give me food convenient for me."

Food differs from air and water in that it is a complex substance that must be disintegrated and undergo varied changes in the organism before it can be of any service in sustaining life or building up vital organs. It is not simply required of it that it shall be digested, as some seem to think; it must be assimilated, purified, excreted as well. Nine-tenths of the responsibilities of physical life circle around what we eat and drink, and this responsibility has only fairly begun when the food has been digested. It is food which involves the great complexity of organic structure which the animal organism exhibits; it is food that necessitates the existence of stomach, liver, bowels, even of lungs, kidneys and skin. How much work these organs do depends upon how much food one eats or drinks. *The more food, the more work;* in these days of prostrations, exhaustion and want of rest, it were well to emphasize this great truth.

We have thus suggested, in short phrase and in general terms, the sources of the obstructions which lie at the root of all forms of melancholia, neurasthenia, nervous prostration, and, indeed, most other diseases. Let us now, for a few moments, particularize. The great source of organization, development and physical vigor is well described by the term nutrition. Nutrition, as the physiologists tell us, is a process of life which takes place in the capillary circulation. It is a great mistake to confound it with food. Instead, it is the process of building the prepared materials into vital structure. But there are two systems of capillary circulation which are complementary to each other. These are, first, the capillaries of the general system, through which all organs are built up; and, second, the capillaries of liver, lungs, bowels, kidneys, skin, in

which the opposite processes of disintegration and elimination occur. Through the one set of capillaries the blood is changed from arterial to venous; that is, blood of high quality falls to a lower level in order that the tissues of the part through which it passes may gain what the blood loses. In the other set of capillaries, those of liver, lungs, kidneys, bowels, etc., the blood regains what it had lost while the worn-out particles are taken up and excreted. These excretions are the egesta, which should correspond in general terms with the ingesta—the air, water and food. The peculiar and important fact here to be noted is, that unless these changes are effected in greater or less perfection in their respective organs, the blood cannot pass through them, the circulation is obstructed, nutrition suspended, and, if the stagnation be complete, death is the result. Thus, if the blood cannot be oxygenated in the lungs, circulation cannot continue, but death follows, as from hanging, or the heart failure of pneumonia. If the liver cannot secrete the bile from the blood, congestion and enlargement follow, and the whole portal system becomes overburdened. If the kidneys fail to secrete urea in proper measure, as in Bright's disease, circulation is obstructed, and valvular insufficiency may be expected. So, too, if the nutritive changes cannot be effected in the general capillary circulation, the flow of blood is greatly impeded, the labor of the heart is correspondingly increased, and vital exhaustion threatened, both from reduced nutrition and increased labor. Shall we administer more food under the insane idea that food is nutrition, that it gives strength? Shall we give heart tonics to increase the vigor of the pressure upon the already overburdened organs? Shall we administer stimulants whereby to support the patient's strength and compel the heart to pump against an immovable barrier to circulation and health? The insanity of such practice ought to be evident to every reflecting mind. Under such treatment and such conditions is it wonderful that the patient should be afflicted with gloomy forebodings, restless anxieties, irritable temper, delusions, insomnia, nervous weakness, or, indeed, any other disturbance of mental or bodily function? Too often the mind itself becomes unbalanced, as the rapidly

increasing number of inmates of insane hospitals testify. Will differential diagnosis come in here to tell us whether it is neurasthenia, melancholia, nerve exhaustion, prostration, or what? Our object is not so much scientific nomenclature, or even correct diagnosis, as it is to indicate a system of treatment based upon the ideas advanced which has proved in our hands remarkably successful.

Two leading thoughts underlie this treatment. First, Cease to introduce the obstructions. Second, Apply treatment to quicken circulation, and thereby increase both nutrition and excretion. The first is accomplished by withholding all food for 48 to 72 hours; the second indicates the importance of massage, fomentations, baths, with abundance of pure air and pure water as the agents of circulation and excretion. By withholding food, stomach, liver, lungs, heart, kidneys, skin are all rested, and given time and opportunity to "catch up with their work," using a popular phrase. Think of 72 hours of breathing, secretion and excretion, while as yet no new material is introduced for the vital organs to work upon. But the patient will be exhausted, you say. On the contrary, the nutrition, through which all strength and vigor come, will be quickened, and immediate relief in many cases be secured. By this means we obtain all the benefits formerly secured by bleeding without any of its injurious consequences. True, the patient may temporarily miss the sustaining power of being crammed, but man is something better than an empty bag which cannot stand alone. We have taken many cases of invalids as weak as crying babies, and with a little fast given them the courage and the resolution of the man behind the gun—of the free-born American. "It is written that man shall not live by bread alone." The power of manhood is from a nobler source than bread and beans.

The value of massage in these cases is not to be despised, though we seldom employ it until after the fast has ceased. Twenty-five years ago we began its employment in our Sanitarium, and have always found it one of the most important measures in the treatment of chronic invalids of all kinds. But, we must warn you of a great error in its employment; it

is generally used to excess. No invalid can be benefited by a massage continued longer than thirty minutes if properly given. You can't work power *into* an invalid, but you can easily work it out. "Enough is a feast" is just as true of exercise as it is of food. And massage is exercise administered by the hand of the attendant. It means manipulation, pressing, squeezing of the soft tissues of the body in such way as to facilitate the passage of the blood through the capillary vessels and so promote nutrition of the parts. Hot fomentations applied over stomach and liver to warm up these great organs of sympathy, and so warm the whole body, is often very valuable. But, more important than all, in many cases the bowels should be thoroughly washed out. We commend to the attention of all those who imagine that a man can't be clean without a daily bath the thought that cleanliness within is fourfold more important than cleanliness without. If the smooth external skin cannot clean itself, but needs frequent washing to prevent impurities from being reabsorbed, what shall we say of the irregular mucous-membrane of the bowels, that great organ of absorption, with its numerous folds, creases, pockets, all crowded full in many cases with the foulest of matters. What creatures of habit we are! We have become accustomed to the thought of the cold morning bath, which has not a single sound argument in its favor, while we overlook the reeking foulness of an inactive if not impacted colon. A few years ago a patient came to us suffering with a syphilitic ulcer of the soft palate, which was well-nigh eaten up. We questioned him as to his habits, and found them very correct, even to the daily movement of his bowels, but upon investigation found the abdomen distended with fæcal matter, which, when we removed, the ulcer healed in a few days, and that was the end of it. A thorough washing-out of the bowels by the injection of three quarts of warm water in which a little boracic acid may be dissolved, is an important measure in the treatment of most cases. A few years ago a leading business man of the city of Baltimore, nearly seventy years of age, was brought to me suffering from what his brother, a leading physician of that city, had told me was unquestionably "softening of the brain,"

but with injections, abdominal kneadings, diet and massage, was entirely restored in four months, and returned to his business, which he still continues.

But a more systematic statement of a few of the cases treated will perhaps be appreciated. Some few years ago Mrs. E., a widow, age about fifty, was brought to our Sanitarium by Dr. S. G. A. Brown, of Shippensburg, Pa. The case was a very forbidding one, having passed almost to a state of dementia, so that we demurred to receiving her, but at the earnest solicitation of the doctor finally consented, and put her in care of a nurse, who was instructed to stay with her and simply see that she did herself no harm. We think the patient was so far gone that she did not know what we did for her. Her bowels being regular we did nothing for three days but let her live on air and water, with an occasional dose of arsenicum 30x to quiet her restlessness. At the end of this time we packed her in blankets wrung out of hot water, and three hours afterward gave her food. She was not very hungry and ate moderately. Each day thereafter she had a massage, or oil rub, or a bath, with two meals of food daily, and at the end of three weeks was entirely restored. Her daughter, who had previously been worn out with her care, came and spent a pleasant week with her, and took her home entirely recovered, and she has continued well ever since, or had when last heard from not long ago.

Soon afterward Mrs. N., the wife of a leading railroad official residing at Allentown, Pa., was brought to us by Dr. Helfrich, of that place. The record of her case, made by my then assistant, Dr. William Erwin, says, among other things: "Date of admission, October 17, 1895. Age, 50. Appetite, poor; bowels, regular. Disease, melancholia. First attack suffered twenty years ago. Had several since then, which always lasted several months." Was so nervous, irritable, sleepless, melancholy, that an insane asylum had been considered. We put her in care of a nurse; she fasted three days, followed by massage and two plain baths weekly for cleanliness, and returned to her home entirely recovered in two weeks. She has had a slight attack the past summer and returned for another two-weeks' treatment.

Case 3. A business man of Baltimore, age 46, suffering

for four months, had badly hacked his throat in an attempt upon his life, just before coming under our care. At first we demurred receiving him, but after much solicitation of friends put him in care of two nurses in a cottage near the institution; kept him without food of any kind for three days; gave him all the water he wished, and after fasting, massage, moderate bathing, two meals daily for a month, he was entirely restored, and has continued well ever since.

Though these cases were generally treated without the use of medicines of any kind, it is not to be presumed that we do not use them freely in cases where they are indicated homœopathically. Incidentally, we might mention a case in which a very remarkable cure was begun by two doses of aconite 3x, and completed by massage, baths, and proper diet. This patient was recommended to us by an eminent New York allopath, who had diagnosed aortic obstruction, and was securing to him sleep by chloral and bromide in very considerable doses. On examination, he certainly had a bad heart and was extremely nervous, with slight fever. Gave him acon. 3x in the morning, and asked that he report in the evening for further examination, which he did. We soon found that a great change had taken place; temperature normal, heart's action much improved. He slept well without other drug than aconite, and was perfectly restored in about six weeks. He gave the credit of his cure to the fine air of our place, wholly ignoring the infinitesimal dose that had produced for him really wonderful results.

Mrs. J., brought to us by Dr. Isaac Johnson, of Kennett Square, Pa., author of that excellent little work, *Therapeutic Key*, came suffering from insomnia. "Oh, doctor," she cried, "unless you can get me sleep I will die." I replied, "I will get you sleep if you will do as I want you to." She would do anything. Her trouble was partly asthmatic, though she had a quite pronounced systolic murmur, which prevented her from lying down. We recommended a fast, which she took, and never afterward had any trouble about lying down or sleeping.

But a more important case was brought to us by Dr. I. N.

Thayer, of Newark, N. J., who came with the patient and remained with him during his stay under treatment. Admitted June 23, 1897. Age, 50; weight, 180; former weight, 210. For nine years had been in poor health, but for seven months had suffered agonies from rectal abscess, insomnia, delusions, most distressing irritability, which had worn out his family, from whom he was now separated, for their relief as much as his own. The abscess had been lanced, the external sphincter cut, and the internal sphincter so paralyzed as to be useless. He could not retain his fæces, and had been told by good advisers that he could never hope to do so again. We demurred to the diagnosis, gave him encouragement for complete restoration, and after much persuasion finally got him to submit to treatment. The first twenty-four hours always proves the most difficult to secure. At the end of this time, upon entering the room, the patient extended his hand, and exclaimed: "Doctor, if you will stand by me I'll stand by you." The battle was won. Twenty-four hours' fast had replaced timidity with courage, obstinacy with pliancy, despair with hope, and once more the patient was a man, equipped again for the battle of life. We continued his fast forty-eight hours longer, and then, with a good wet hot blanket pack for forty minutes, which restored to him the circulation of a giant, he was ready for his dinner, and for eight weeks never murmured at being restricted to food once a day, after which he was restored to excellent health and returned to his work. The sphincter, which had been paralyzed for two months, regained its tone, and every element of his affliction disappeared. Being very fleshy, the patient had lost twenty-five pounds in weight, though the rule is that patients gain in weight as well as strength under the treatment. In addition to the strict diet, the patient was massaged daily, with baths twice a week and fomentations, oil rubs, etc., as indicated. In closing the description of this case, I wish to acknowledge my great indebtedness to Dr. I. N. Thayer for the aid he extended to me not only in carrying out the treatment, but for his unswerving fidelity to the interests of his patient.

During the summer just past numerous cases have been

subjected to these measures with abundant success. We cite two typical cases. Mrs. D., the wife of a Moravian preacher, was brought to us by her brother-in-law, who had learned of Case No. 2, above described. We found that she had had a previous attack, and had been in the insane department of the Pennsylvania Hospital, where she remained for three months, without apparent benefit. We found her sleepless, restless, melancholy, and with a delusion that she could not speak. Her age was 49, mother of four children, bowels constipated, menses irregular. We put her in care of a nurse, stopped the sleeping-powders, gave her no food for three days (she didn't care to eat), washed out the bowels thoroughly, gave hot blanket pack at the end of the fast, and thereafter food twice a day. In a week she began to respond to our suggestions, in two weeks would answer questions, in three weeks was bright, cheerful, and took interest in all that was going on. She soon returned to her home, well, since which we have not heard from her.

A more interesting case was W. S., a Philadelphia city official, who had been removed to the Johns Hopkins Hospital, Baltimore, for treatment. The physician-in-charge urged that he should by all means be taken to Walter's Sanitarium, and arrangements being completed through telephone, he reached us June 29th. On examination we found—age 63, weight 128, former weight 150, married, bowels constipated. The patient had refused to eat. He lay in a semi-stupor. When asked to show his tongue or answer questions he only murmured, "No use, no use." Was very weak, and for several weeks had been subject to extreme melancholy with insomnia. The family history in this respect was bad. We allowed the fast to continue for a day, then began with small quantities of Eskay's Albuminized Food. In a few days other food was added. At the end of the first week he suffered from retention of urine, with paralysis of right arm, which passed away in a few days. The treatment consisted of massage, or oil rub, or hand-bath daily, preceded by hot fomentations on stomach and liver for fifteen minutes, or by alternate hot and cold applications along the spine for twenty minutes. After the first week he began

to appreciate the physician's visit and respond to any requests; after the second week he was able to sit up and get out on the piazza in an easy chair; in the third week he was able to move about, and began to be cheerful; at the end of the fourth week his wife, who had been his faithful companion and nurse, returned home, while he continued under treatment, a cheerful, hopeful convalescent for three weeks longer, when he also returned home entirely restored.

Did we have time we might record the results in a very remarkable case of facial neuralgia, which had continued for months, the only relief being obtained through injections of cocaine. The fast, massage, two meals daily, hot and cold applications to the cervical vertebra (spigelia 200x appeared to have no effect), effected a complete cure in about six weeks. We have also secured fine results in rheumatism by the same methods in connection with the indicated remedy, which remedy had, however, completely failed when the fast was neglected. In one case of fifteen years' standing, constant pain, and helplessness, requiring crutches, with great insomnia, the patient after the fast ate but once a day, and in three weeks threw away her crutches and became a rosy and happy convalescent. She is still comparatively well, one year later.

But we must hasten. We delay but a moment to answer the inevitable objection that these methods exhaust the vital forces and weaken the vital constitution. They do nothing of the kind. They cure because they recuperate the only really curative power in nature—the inherent vital force. They reduce physical strength, as does sleep, by reducing vital expenditure. They invigorate the vital constitution by recuperating the vital energies. Patients gain in the reaction both flesh and strength, in many cases to a surprising degree. After 25 years of earnest investigation we are able to assert with the utmost positiveness, and sustain by indubitable proof, that vital force comes only from vital force, just as life comes from life. The reproduction theory is the only true theory. Like begets like, produces like, and cures similar. Vital force is no more transformed from the physical and chemical forces of food than its congener *contraria contrariis curantur* is the true

law of cure. Food, like stimulants, tonics, labor, excitement, the yell of fire at midnight when you are in the tenth-story of a hotel, calls forth and expends vital force, and so reduces the power of cure. But, unlike the others, food yields to the organism that digests it, physical and chemical forces for the carrying forward of physical work. It enables a man to hoe potatoes, chop wood, or engage in pugilistic encounters, but it never healed a broken bone, restored lacerated flesh, or produced even the meanest thought. Something of high degree can no more come out of something beneath it than something can come out of nothing. The power of life bears, on the contrary, an inverse relation to the power of purely physical work. If I wish to have great physical capacity without reference to the continued strength of the vital machinery I will seek to get up more steam—will seek to develop the greatest possible activity and vigor; if, on the contrary, I am seeking to repair the machinery and prolong life, I will remove the pressure of duty, let down steam, and go to bed. If I conceive that the work is of greater consequence than the man that works, I will fire up with all the fat pork, white bread and butter and molasses that I can crowd in; but if the preservation of the machinery —if its repair and long-continued usefulness is the object sought, I will bank the fires, let down steam, and give a rest. There is not, we aver, before the world to-day a more awfully destructive delusion than that which confounds vital energy with vital force, the power of physical work with the power of life, and so proceeds to force upon the afflicted invalid the conditions that even the most vigorous health would not justify —that proceeds to double the pressure upon the already cracked boiler until a dreadful explosion transfers all further labor from the physician to the undertaker, who hastily buries the remains out of sight, and lustily cries out—Next!

REPORT OF THE SECTION OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

The Iris, by H. B. Ware, M.D.
Glioma Retinæ Endophytum, by E. W. Brickley, M.D.
Œsophagotomy, by G. A. Mueller, M.D.
Tinnitus Aurium, by William Spencer, M.D.

THE IRIS.

H. B. WARE, M.D., SCRANTON.

On examination of the eye the first thing we notice is the iris, or its free inner margin which forms the pupil, and then the color of the iris. On careful examination we find three distinct differences in color. First, in what is called the uveal ring, which is the pupillary circle of the inner free margin of the iris. Next comes the pupillary zone and the corona, etc. These are distinguished by their relative difference in pigmentation. In a general examination of the iris we must first note the color, the lustre and the surface condition; whether of a clear or a cloudy or muddy look, and particular attention must be paid to the pupil as to its shape, size, and reaction to light; whether any exudations are on the surface of the iris or adjacent membrane. Of course there must be clear media to make this inspection, for we must first see that we have a clear transparent cornea and aqueous humor, and also whether the eyeball is unduly congested, especially around the sclerocorneal junction. Aristotle first noticed that the eyes of newborn babes are nearly always blue. The fact is that the pigmentary cells of the stroma do not develop until some time after birth, which development is not complete until after the second year, hence the change in color. This lack of development of pigmentation is continuous in the albino, the blood-circulation giving the iris a reddish look. The two eyes of the same indi-

vidual are generally found to be of the same color and intensity, but some times we find an individual with one light eye and one dark eye, or a light and dark division in the same eye, which with them is normal, and signifies no trouble with the eyes, but is due to an irregular pigmentary deposit. This has the name of heterochromia. During an attack of inflammation this often makes a diagnosis for a surgon most difficult, when not having been previously informed of the phenomenon. As, for instance, in an inflamed eye the iris may change from a blue to a yellowish green; if permanently thickened it may remain green.

There are many forms of inflammation of the iris, each taking its name from the originating cause, as rheumatic, syphilitic, traumatic, etc. In the great majority of cases the cause is traceable to one of these three causes, either predisposing or direct; generally a constitutional cause can be found. Nerves that supply the iris come from the nasal branch of the ophthalmic division of the fifth. Hence a sympathetic inflammation originating in an inflamed Schneiderian membrane. Examination by lateral illumination, as well as direct, with a magnifying glass is most valuable. Every portion of the iris can readily be seen, and any defect readily identified at an early stage of the affection, such as small growths, synechiæ, if present, also the condition of the lens, or a persistent pupillary membrane, which membrane usually passes away between the eighth and ninth month of the fœtal life, although traces are often found at birth which later disappear. The objective signs are generally shown by loss of lustre and haziness of the cornea, which may be due to an involvement of Decimet's membrane, slow reaction of iris to light, with some contraction of the pupil. The conjunctiva may not differ in appearance from an ordinary conjunctivitis, but generally there is a distinguishable bluish-red ring around the cornea, about one or two millimeters broad. There is also generally a slight drooping of the lid. These, with pain, generally more severe at one point than another, usually the upper segment, go to form our diagnosis. Another interesting thing to note here is the fact that a brown iris generally has a reddish-brown appearance when inflamed,

and a blue iris has a greenish color. In later stages of iritis we may find pus or blood in the anterior chamber.

Some of the subjective symptoms are the character of the pain above mentioned, which may be so severe that the patient loses all control of himself, requiring large doses of morphia to quiet him, and, on the other hand, the symptoms may be so mild as to attract only the slightest attention, the appearance being that of only a slight hyperæmia. This latter condition may be allowed to run its course until the eye is hopelessly damaged by the insidious formation of strong posterior synechiæ.

The general symptoms are not usually marked, save possibly a general malaise and loss of appetite and pinched look, caused from the suffering. In the beginning there is a slight scratching of the eye on closing the lid, this going on to a severe pain, radiating, as generally described, back of the eye to the temple and forehead, and is usually worse at night when the patient is in a recumbent position. Photophobia is one of the most annoying symptoms early in the attack, which, though, lasts until the resolution sets in.

Differential diagnosis is sometimes most difficult, and can only be determined by the use of the ophthalmoscope; it may simulate glaucoma, cyclitis, and there may be a hyperæmic condition of the conjunctiva, due to a spinal myosis, which latter is generally readily differentiated by the eye reacting to accommodation and convergence, and not to light. In glaucoma we must rely more on the tension than on any other point; but then we may have an increased tension in iritis; the condition of the fundus is then our guide. There is a suppurative form of iritis which is the result of some other structure of the eye having been affected, the cornea, ciliary body, or possibly the choroid, or vitreous. Cyclitis is by far the most serious disease, on account of the functional importance of the ciliary body, although this is not so often affected as the iris. Iritis is seldom found in children under ten years of age, unless from a strumous or syphilitic keratitis, or decemitis, or from some external violence; at puberty, especially in girls, iritis is frequently found, more especially in those of syphilitic parentage,

for this is the time for this hereditary taint to show itself, it may be for the second time in the life of the patient.

In regard to the duration of iritis: first, we must take into consideration the cause, idiopathic or traumatic, acute or chronic. Also, more than anything else to be thought of is the general health of our patient, and also the time the disease has been allowed to run before the patient presented himself for treatment, and whether there are any existing or old posterior synechiæ, partial or complete. If existing synechiæ cannot be broken up after twenty-four hours' use of a strong mydriatic, a very guarded prognosis must be given as to future vision, for a capsular cataract may be shown on inspection after all inflammatory symptoms have subsided. The usual course of an ordinary attack continues for from four to six weeks, but may be much shorter or longer, depending on the originating cause. Chronic iritis may run a long course, but the symptoms are not usually severe.

Treatment—Local and General.—Being sure of our diagnosis, the first thing to do locally is the application of a mydriatic to remove the iris from the lens capsule. Atropine sulphate, Duboisine sulphate, cocaine muriate, hyosciamine sulphate, etc., are among the best for this purpose; in later stages subconjunctival injections of a saturated solution of sodium chloride are often followed with immediate good results, with relief of pain and inflammation when a *statu quo* condition seems to exist. This is a harmless remedy; if no benefit is gained, no harm can come from its application. When the cornea is involved, this and cocaine should never be used, for when there is loss of tissue or a break in the continuity of the external cornea these salts seem to prevent granulation.

A vigorous, stimulating systemic treatment should always be followed. The indicated remedy should always be given, and a careful diagnosis will suggest this remedy. If syphilitic, rheumatic, or strumous, the remedy will be suggested by the general symptoms.

GLIOMA RETINÆ ENDOPHYTUM.

E. W. BRICKLEY, M.D., YORK.

The rarity of glioma retinans and the desire to obtain more information through discussion by members of this bureau upon a subject, the diagnosis of which is so often made upon the expectant plan, must be accepted as my chief reasons for presenting this paper. In a varied and somewhat extensive ophthalmic practice, covering a period of nine (9) years, this has been the first case of its kind presented to my notice, although having been fortunate enough to have had the opportunity of examining one in the clinic of Fuchs, at Vienna, during my course of study there in 1889.

The course run by the disease in this particular instance was somewhat peculiar, viz., the length of time elapsing before the eye attracted sufficient attention to deem the services of an ophthalmologist a necessity; the failure of the microscopist to detect the true nature of the growth; the (rarely observed) detached retina, not often seen in the endophytic type; the paralytic symptoms presenting in the latter stages of the disease; and, finally, the extended period of suffering endured before the curtain was rung down upon the final act of an agonizing existence. With this preface, then, allow me, as briefly as possible, to outline the following case, which presents so much of interest and vital importance:

Ruth H., a bright little girl of 5 years, was brought to my office October 23, 1895, "to see what made her left eye look so funny." Upon examination, found her general condition excellent and no apparent constitutional taint whatever, with the exception that within the previous week she had been drooping and complaining of her left eye, which on inspection presented the following appearances, copied into my case-book at the time:

Cornea perfectly clear, and both palpebral and bulbar conjunctivæ normal; a slight divergent strabismus of the affected eye. Of the iris nothing could be seen, the pupil occupying the whole of the corneal space, and through opening shone a bright yellow gleam, which at once suggested the existence in the second of the fatal "glioma." Vision was absolutely nil. An ophthalmoscopic examination revealed a somewhat nodular tumor springing from the macular region, upon the surface of which a few blood-vessels ramified, while grayish wavy patches, brought to view with + lenses, seemed to indicate a retinal detachment. A few cholesterin crystals floating in the vitreous completed the interesting picture. The statements of the parents were to the effect that for several months previous the child's eyes had "looked queer," but nothing was thought of it until the bright yellow gleam was noticed a short time before presenting her for treatment. A diagnosis of "glioma retinæ endophytum" was given and immediate removal of the eye advised, which advice was not accepted by the parents, who, being entirely unaware of the inevitably fatal consequences which were sure to occur, naturally objected to what they at the time regarded a procedure too radical to be countenanced. Since their consent to an operation could not be obtained, it was agreed that the case should report to me every few weeks for examination, and for nearly two years this was faithfully carried out, the only treatment for the first few weeks being doses of potass. jod. and locally a soothing collyrium, the latter prescribed more for the purpose of convincing the parents that something was being done than with the hope that any treatment short of removal would hold out the slightest prospect of relief. On July 1, 1897, the patient presented the following conditions: General condition bad; anæmic and unable to sleep, owing to constant headache; anorexia and characteristic cachexia were present; eye rather more prominent and bulbar conjunctiva much injected; the cornea at superior and exterior quadrant bulging and on point of breaking down, while the vitreous chamber seemed well nigh filled with the growth; In + 2. Immediate removal was again urged, but was not permitted until the 6th

inst., when after some difficulty the ball with quite a portion of optic nerve was enucleated. The recovery from operation was uneventful. Upon section of the globe antero-posteriorly a nodular tumor was found sprung from the region of the yellow spot and almost entirely filling the vitreous cavity. The retina was detached fully three-fourths of its extent; the choroid atrophied in spots; the iris conspicuous by its absence.

Desiring a *positive* diagnosis as to the exact nature of the growth, it was sent to a student friend, who in turn submitted it to an expert microscopist. The latter, after several weeks spent in hardening the specimen, finally succeeded in obtaining a section which he pronounced, after due examination, to be that of a simple fatty tumor of the retina. Dubious as to the correctness of this result, but knowing it to be the best available, I informed the family of the probability of an entire recovery. The reverse, as the sequel showed, proved that my suspicions were correct, as within three months trouble again became apparent in the orbit, there being much irritation and excessive lachrymation which nothing seemed to control, and finally the dreaded excrescences of encephaloid were plainly in evidence. From this time up until the hour when Death dropped his sable mantle over the scene, her existence was one of incessant suffering. Total blindness of the right eye ensued, together with loss of hearing, while an entire paralysis of all the extremities completed a picture pitiable in the extreme. The orbit became filled with a hideous mass of granulations, which extended for several inches beyond the supra-orbital line, these at times breaking down and discharging a fœtid sero-pus, only to speedily re-form and repeat the process.

Death finally occurred on August 28, 1898, about a year and six weeks from the time of removing the eye. It may be stated, in closing, that the general treatment of the case was almost solely confined to the tonic form, the multitude of symptoms serving to confuse rather than aid intelligent prescribing according to the law of "similia." Opiates, of course, were necessarily used in heroic doses to give some needed rest to the tortured body.

The paralytic condition of the extremities seems to be

unusual in this disease, at least it fails to appear in the literature consulted, the patient usually dying of exhaustion long before the brain becomes involved to such an extent as to cause loss of muscular power. Why the microscope failed to reveal the true state of affairs I am at a loss to comprehend, unless it can be attributed to the difficulty in obtaining a good smooth section, the specimen being exceedingly friable. These queries, together with others which have doubtless presented themselves to you as the paper has been read, will perhaps promote a discussion from which the writer hopes to glean some much desired information.*

ŒSOPHAGOTOMY.

G. A. MUELLER, M.D., PITTSBURG.

The operation of œsophagotomy is perhaps sufficiently rare to attract some attention on that account, if no other. Unfortunately the literature on the subject, or at least that portion which has been brought to my notice, is very meagre, and we are compelled to content ourselves with a rather vague and indefinite knowledge of the subject. According to Agnew, the feasibility of the operation was first suggested by Verduc as far back as 1643, although there is nothing to show that he at any time attempted to put his views into practical operation. The honor of first having performed this operation successfully seems to lie between Goursault and Roland, who each reported a case in 1738. However, credit is due to Bégin, who first formulated any definite mode of procedure in the operation. It is believed that to Dr. Watson belongs the honor of having first performed this operation in New York in 1844. Fisher reports 120 cases from various sources from 1738 to the present day, and its comparative rarity is further attested by the fact that the great Billroth stands at the head of the list with

* The mounted section was also submitted.

8, followed by Krönlein, of Zurich, with an experience of 6 cases. In 1848 De Lavacherie reported a *résumé* of the results obtained in 83 cases of œsophagotomy by different operators. In 18 cases the operation was speedily followed by death; 17 others proved fatal at longer or shorter intervals, and 26 were followed by serious ill-results, but not proving fatal.

A case presented itself at this hospital on July 13, 1897, with the following history: Raymond E., æt. 22 months, had ten days or two weeks previously, while at play, swallowed an iron jack-stone, which lodged in the œsophagus. Numerous attempts had been made to remove or dislodge it, but to no purpose. The child was able to take some liquid nourishment, but all solids almost immediately regurgitated. An X-ray picture was taken, which revealed the offending body lying in the œsophagus about on a level with the first intercostal space. Further attempt was then made to remove the obstruction by use of the coin-catcher, forceps, probang, etc., but during previous efforts to remove it the pharynx and upper portion of the œsophagus had become so lacerated that every attempt in this direction proved futile, the instruments frequently becoming caught in these false passages. One effort promised success, the jack-stone having been reached; but no moderate amount of force seemed to be of any avail, which is not surprising when we take into consideration the lumen of the œsophagus of a twenty-two months' old child and the size of the jack-stone, and the further fact that during its two weeks' lodgement it had produced a certain amount of ulceration. An œsophagotomy was determined upon as being the only recourse, and the case was referred to me for operation. An incision was made on the left side along the inner border of the sterno-cleido-mastoid muscle, beginning about on the level of the middle of the thyroid cartilage. It was continued down to the sterno-clavicular articulation. A careful dissection was then made, carrying the sterno-thyroid and sterno-hyoid to the right side and the sterno-cleido-mastoid and the carotid vessels, the jugular vein and pneumogastric nerve to the left. Fortunately none of these nor the recurrent laryngeal nerve was injured, and the incision was carried well on down back of the clavicle and back

of the apex of the left lung. The finger now detected one prong of the jack-stone pressing against the wall of the œsophagus. An incision was made directly over it, and it was seized and fixed by a pair of forceps. The incision into the œsophagus was then enlarged sufficiently to admit of its extraction and it was removed. An examination of the œsophagus revealed the fact that with much further delay the offending body would have perforated its walls, and that the operation was undertaken none to soon. Owing to the ulceration it was not deemed advisable to completely close the wound, and only the upper portion, which we could reasonably hope would heal by first intention, was closed. At no time, except during a brief period on the day following the operation, when it reached 100°, did the temperature rise above $99\frac{8}{10}$°, ranging most of the time between 98° and 99.6°. For some days the child was nourished per rectum, and on the twelfth day was discharged from the hospital and made an uneventful recovery. No ill results or complications have followed, and we may congratulate ourselves on adding one more to the growing list of interesting successful operations.

(Skiagraphs of the case were shown.)

TINNITUS AURIUM.

WILLIAM SPENCER, M.D., PHILADELPHIA.

One of the most troublesome conditions the aurist is called upon to treat, and for which a great many remedies have been proposed, is tinnitus aurium.

It is a frequent symptom in many diseases of the external, middle and internal ear, and may originate from diseased conditions, not only in the various parts of the organ of hearing itself, but also in other parts of the head and body, being transmitted to the ear either directly along mechanical channels or indirectly by reflex action from the sympathetic and cerebrospinal nerves to the auditory nerve.

Field, of London, gives as the chief causes of subjective tinnitus:

"First. Abnormal pressure on the labyrinthine fluid.

"Second. The reflex causes which act on the nervous structures or on the labyrinthine circulation.

"Third. The entotic sounds; that is, those resulting from sonorous vibrations originating either within the ear or its neighborhood."

According to the observations of different aurists, from 25 to 33 per cent. of all ear patients suffer from subjective noises in the ear.

The condition is more marked in the decline of life, for in childhood the exanthemata and naso-pharyngeal affections are the chief diseases which frequently become the source of affections of the ear.

While the frequency of ear diseases decreases in the prime of life, it presents, again, a noticeable increase in advanced age, not only in consequence of retrograde changes in the ear similar to those in the other organs of special sense, weakening the power of the auditory nerve, but also frequently—owing to the development of chronic insidious inflammations of the middle ear—leading to thickening of the lining membrane of the tympanic cavity and to rigidity of the articulations of the ossicles.

The subjective sensations of hearing are characterized by the patient in different ways, not only in intensity and constancy, but also in quality and pitch. Of course, imagination plays a large part in the description by the patient of these subjective phenomena, and it will usually be found that he likens the noise in his ear to external sounds with which he is familiar, being largely influenced by his personal experience and environment. In cases of this kind, while we are dependent upon the descriptive ability of the patient, we must not accept the statements that are made as an altogether safe guide in diagnosis. Nevertheless, they furnish useful hints as to the causation and the probable pathological condition existing, and it would be wrong to reject them entirely.

Dr. Peter Allen wrote: "As chronic catarrh is the most

common form of deafness, so is tinnitus aurium the most frequent result or sign of it. It is dependent upon some abnormal pressure upon the nervous expansion in the labyrinth. The membrana tympani presses the ossicles, and therefore the base of the stapes, inwards upon the fluid when the auditory nerve is disturbed, or it may be so rigid, tense and unyielding that the secretions within the drum press unduly upon the still more delicate membrane of the fenestra rotunda.

"Thickening and great tension of the lining membrane do the same thing.

"Next to interference with the membrana tympani, closure of the Eustachian tube is the most common cause of singing in the ears. A closed tube necessitates a too great curvature inwards of the membrana tympani, and consequently an abnormal pressure upon the nervous expansion within the labyrinth."

Tinnitus of a pulsating or beating sound, especially if occurring with the movements of the heart, is referable to vibrations set up by the passage of blood through the carotid artery, jugular vein and the vessels of the internal ear, and transmitted to the internal ear either through the ordinary channel or through the tissues of the head. This motion is sufficient to excite the auditory elements by causing vibrations of the intra-labyrinthine fluids, and so produce sound, which, being a normal condition and one to which the ear is accustomed, will remain unnoticed.

But let this movement be increased by stooping, by physical exertion, by mental excitement, or by any cause intensifying the circulation in the vessels of the head and neck, and at once the abnormal condition draws our attention to it.

Tinnitus is due either to increased sensitiveness of the auditory apparatus, or, more likely, to changes in tension in the sound-transmitting apparatus, by thickening of the soft tissues of the middle ear, impacted cerumen, a swollen canal, or exudations and adhesions—the result of chronic catarrh, etc.—which, by interfering with the aerial condition of sound, at the same time facilitates the conduction of vibrations through the tissues of the head.

These sounds—the most common variety—are generally de-

scribed as similar to the sound of distant rumbling or as to the noise of the ocean, and are associated with the movements of deglutition, of mastication and of respiration.

Tinnitus may result from an increased pressure of the intra-labyrinthine fluids, the result of thickening, increased blood-supply, hæmorrhage or exudations, or it may be due to an opposite effect—a diminished intra-labyrinthine pressure, caused by a loss of intra-labyrinthine fluid or by a lessened blood-supply to the internal ear. Examples of this would be in cases of anæmia and in a famishing person.

Tinnitus of myringitis is seldom absent, varying in accordance with the intensity of the morbid process going on in the tympanic membrane.

Diseased conditions of the auditory nerve in any part between the internal ear and the brain centre may cause a pure subjective tinnitus. However, so little pathological research has been made in this direction that the field is very obscure; but, reasoning by analogy, the auditory nerve may be subject to as many diseased conditions as that of the optic nerve, although, from its anatomical location, they are not capable of demonstration.

From this variety of causes it will be seen that the treatment of tinnitus aurium must be as various as is the cause, and that success in its treatment in each individual case must depend upon a correct understanding and diagnosis of the cause which produces it. The keynote to the success in treatment is to remove the cause, whatever that may be, whether due to foreign bodies in the external meatus, congestion or inflammation of the membrana tympani and external meatus, anæmia, reflex irritations from the nose, teeth, hæmorrhoids, etc., pulsations produced by pressure on the arteries of the ear, diseases of the heart, or middle-ear secretion due to otitis media.

The most frequent cause of tinnitus is associated with the different forms of otitis media, causing a local tympanic congestion, and not only interfering with the normal arterial flow, but to the extension of the irritation and pressure to the inner ear. This condition and result are very evident when we consider the pathology of acute suppurative inflammation of the middle ear.

"First, there is hyperæmia, and consequently hypersecretion from the mucous lining of the Eustachian tube, tympanum and mastoid cells. The swelling of the tube tends to lead to retention of the secretion, and to strangulation of the veins and lymphatics which pass from the middle ear to the nasopharynx. As the inflammation increases, a larger number of leucocytes than normal migrate from the vessels into the tympanum and the vitiated epithelium is shed. This secretion, if prevented from draining through the Eustachian tube, is retained; the cells of this retained secretion undergo fatty degeneration, and ulceration of the lining membrane takes place. The hyperæmia often extends by continuity to the labyrinth."

As a result of this inflammation, the tympanic contents are incapacitated for vibratory transmission by bands and masses of fibrous tissue, so that the physiological functions are rendered almost *nil.*

Now, this common factor in the production of tinnitus aurium should, by analogy, be amenable to treatment by any drug combined with the use of certain mechanical measures, such as the inflation of the middle ear, and passive motion of the membrana tympani that will produce a softening and absorption of cicatricial tissue. The writer's attention was called to such a drug by observing the result obtained from the use of thiosinamine in the successful treatment of keloid, lupus, chronic glandular swellings, removing scar-tissue and the power of softening cicatricial tissue. Messrs. Merck & Co., New York, kindly furnished me with the following brief *résumé* of the physiological action of the drug:

"Thiosinamine (allyl sulphocarbamide) is derived from the oil of mustard-seed. It belongs to the same chemical group as urea. The colorless, bitter crystals are soluble in water, alcohol and ether. The dose usually is from 4 to 8 minims once a day of a 15 per cent. solution, hypodermically."

"Dr. H. von Hebra, Jr., of Vienna, employed the remedy in a number of cases of lupus, 3 minims of the liquid, gradually increased, being injected into the back two or three times a week. These injections did not provoke any general reaction, save occasionally accelerated respiration, and never any alarm-

ing symptoms; on the other hand, a distinct local reaction set in after a few hours, rubescence, swelling and tension of the skin of the lupus area. As a rule, a sensation of heat and of tension was also experienced in the affected parts, but this disappeared soon.

"The urine was augmented in quantity, the patients voiding on the day of the injections 200 to 500 c.c. ($\frac{2}{5}$ to 1 pint) more than usual without anything abnormal being observed with the kidneys themselves; the urine contained neither albumin nor formed elements. On the other hand, the injections determined an improvement in the general condition; the appetite was augmented and the bodily weight increased.

"The effect of the remedy was also noted by another observer in 30 cases of glandular swelling in children, and in all these the results were excellent. The injections of the remedy were well borne, on two occasions only an urticarial eruption having supervened, and which disappeared without treatment. The remedy was used in doses of from 16 to 80 minims of a 5 per cent. solution injected twice a week under the skin of the intrascapular region, alternating between the right and left sides."

Dr. Sinclair Tousey, who has made a very careful study of this drug for the past four years, says: "It would appear that thiosinamine sought out the disease, in whatever part existing, and destroyed it."

This sounds rather extravagant, but mercury and arsenic and iodide of potassium and a good many other drugs might be said to have the same power. The idea is, that this drug sets up an unusual cellular activity in the blood and in the lymphatic and connective tissues which are the nurseries of leucocytes, and that lowly-vitalized tissue (*e.g.*, cicatricial tissue) is affected wherever it may be located. My experience with this drug in this disease has been too brief to give a tabulated report of cases. I have used it during the past six months, selecting several cases (nine) where the conditions seemed to favor such a course of treatment, with results which have been so satisfactory and gratifying as to justify me in saying that it is a drug that should be most thoroughly investigated, and that

it may prove a valuable addition to our list of remedies for this troublesome and distressing disease. I am free to confess that I have had more failures than successes in the treatment of tinnitus aurium, and that I have no reason to feel very much enthused over any one special line of treatment for all cases; but where the ossicles are bound down and the functions of the tympanic cavity so much impaired by fibrous bands and adhesions, this remedy will suggest itself to me.

It may not be able to entirely stop the tinnitus, but in many cases the very turbulent noises can be so diminished that they may be borne by the patient.

REPORT OF THE SECTION OF OBSTETRICS.

The Local Treatment of Puerperal Septicæmia, by Margaret Hassler Schantz, M.D.

Complicated Twin Labor, by D. C. Kline, M.D.

Homœopathy in Albuminuric Nephritis of Pregnancy, by Emma T. Schreiner, M.D.

THE LOCAL TREATMENT OF PUERPERAL SEPTICÆMIA.

MARGARET HASSLER SCHANTZ, M.D., READING.

A SUBJECT which has occasioned a great deal of discussion among the members of the medical profession, both in medical society meetings and in articles especially prepared for the journals, is that of the treatment of puerperal septicæmia. In the selection of a paper for presentation for discussion at a medical meeting it has always been deemed far preferable to select one on which the members are not a unit, so far as their mode of procedure is concerned, for it is always desired to have a full expression of opinions on a subject, as in that way a meeting is made more profitable to those in attendance. Noting the fact that the treatment of puerperal sepsis is one of those subjects, I have chosen it for the title of my paper.

Puerperal septicæmia is a preventable disease, at least it is so claimed by many. In fact, some go so far as to say that the development of sepsis shows carelessness on the part of some one connected with the case, be it the physician in attendance, the patient, or the attending nurse, who, unfortunately for us, is too often a meddlesome old woman. However, it must not be forgotten that the condition of the woman after labor is such that she is predisposed to septic poisoning from the absorption of the products of tissue degeneration which are not excreted or reassimilated, and hence surcharge the blood, and septic

poisoning results. In a vast majority of cases, however, the poison is brought mechanically into the genital tract by dirty instruments, or by the unclean hands of the physician, who may have attended a woman similarly affected, or carried infection from suppurating tissues, or from a case of erysipelas or diphtheria.

A peculiar feature of puerperal infection is the great diversity of the pathological changes, a circumstance that has given rise to much perplexity, but which can easily be accounted for, since it is known that the true agents at work are living organisms or a poison produced by them. It is not my intention to give a *résumé* of the indicated remedies, but to lay stress on the necessity of careful and thorough cleansing of vaginal and uterine tissues by means of irrigation with antiseptic solutions, and if this fails to reduce the temperature, rapid pulse, and other symptoms of septicæmia, to advocate curettage for the removal of the *débris* from the uterus.

I am aware of the fact that I am now treading on debatable ground. Many advise it; others deem this treatment absolutely dangerous. The use of the douche is not without danger, and we have all seen the symptoms increase after an intra-uterine douche instead of the improvement looked for. There may be several reasons for this; much force given to the irrigating fluid drives the septic matter into the circulation. To avoid this, the fountain syringe should never be more than two feet above the patient. Aggravation of symptoms may also follow from rough usage of injection tube, thereby opening fresh channels for infection. If irrigation fails to do good, it is because the douche has been employed too late, and the germs have gotten into the Fallopian tubes or the lymphatics.

The antiseptics lauded for intra-uterine douching are many. The 2 per cent. solution of creolin and permanganate of potash, two grains to the ounce, serve an excellent purpose. Tincture of iodine and the dioxide of hydrogen mixed with an equal amount of water has its friends. Bichloride of mercury is excellent, but considered dangerous, except when used in the weaker solutions. To secure the entrance of the antiseptic fluid to the fundus and its exit from the cervical canal a double-chan-

neled tube of glass is desirable. If, however, the cervical canal is patulous, as it usually is after labor, the fountain syringe with single glass tube attached answers the purpose.

The frequent occurrence of decomposing *débris* in the uterine cavity is far more common than would be thought possible by one not accustomed to using the curette in the puerperal uterus. In the use of the curette the danger of perforating the soft uterine wall is a bugbear to many physicians, but it is very much less than generally believed. The so-called "Berlin" curette is a favorite of mine. It has a hollow handle and shank acting as a douche; the *débris* is washed out by the fluid carried through the instrument, so that the completion of the curettage is signalled by the disappearance of the granulations in the return stream. If the fever does not disappear within twenty-four hours after the use of the douche, then the second indication, that of curettage, must be met. Do not waste time, and with the parts thoroughly cleansed, the curette is used immediately, scraping the uterus from fundus to cervix, paying especial attention to the horns of the uterus. It is then thoroughly irrigated and packed lightly with cordine, the irrigation and packing being repeated, if necessary. This is followed by a simple occlusion pad, consisting of absorbent lint wrung out of creolin emulsion, followed by dry sterilized gauze fastened to a binder.

The question of surgical aid in the treatment of puerperal sepsis has a limited though important application. When there is no amelioration after the irrigation and curettage, and we find no indications of fibrinous exudate in the pelvis, then hysterectomy, especially by vagina, holds out a chance.

The fact cannot be impressed too strongly, that septic infection must be recognized promptly and treated immediately by active local measures, and in the few cases which fail to improve, the possible benefit from surgical aid demands our careful consideration.

DISCUSSION.

Dr. Pemberton Dudley: I do not consider myself an accomplished obstetrician, but there is something in this question of puerperal septicæmia that impresses me. I hear a good deal

said about retention of portions of the placenta or membranes, and their decomposition setting up septic conditions, as constituting the cause of post-partum fever. I have no doubt whatever that to that condition a combination of circumstances must be attributed in a great many of our cases, but I have long felt that there is another cause which does not occupy the place in our minds it should—that is, the association of alvine evacuations and improper cleansing of lacerations of the cervix or perinæum. I am terribly afraid of human fæces. My studies in sanitation for the last fifteen years have given me a perfect horror of that element of danger of the human body. I believe that the contact of the human fæces with a lacerated cervix, even though these fæces may not be in a state of decomposition, is always attended with a terrible result. I have observed in my own practice and I can recall cases in which slight lacerations of the perinæum were not sufficient to be necessary to stitch, and this, associated with perhaps a diarrhœic condition of the bowels during labor, have been followed by febrile symptoms and conditions; but I cannot understand how it can be possible for the examining finger to be covered with these alvine discharges and brought in contact with a torn cervix with impunity. I cannot understand how it can be safe for a nurse, when cleaning a patient after delivery, to use a cloth and wipe it across both outlets time after time, and especially if the anterior outlet be at all lacerated; I cannot perceive how that can be done with safety to the patient. I believe, if we watch our cases and use cleanliness in this direction, we shall have fewer cases of septic poisoning following our cases of labor.

Dr. Theo. J. Gramm: I am considerably interested in this subject of septic infection, both from a historical and a practical point of view. I claim that our physicians do not sufficiently realize the exceptional, the unusual, the great necessity for the exercise of cleanliness in its surgical aspect when called upon to treat cases of labor.

Now, as the doctor has remarked, not only the physician but the nurse should be instructed in the essential points in antiseptic methods, and should insist in all cases upon employing

them when called upon to deliver a woman in confinement. I think, as I have said before, that a confinement case should be regarded in gravity as one equal to an abdominal section, and all of the preparations should be made as for an abdominal section—I mean as regards personal cleanliness of the operator, the nurse, and the materials employed in coming into contact with the woman. They should be as clean as if they were to come into contact with the opened abdominal cavity. I, of course, do not refer to taking up the carpet, taking down the shades and washing the room, and yet there should be surgical cleanliness even in the room. I feel that this subject cannot be too frequently insisted upon.

I want to discuss a few matters referred to more particularly in the paper. The vaginal douche after labor I consider an essential method of treating these cases. I am not an advocate of using the vaginal douche after every case of labor, but I do think that on the first rise of temperature, or rather on the first rise of the pulse-rate, the patient should be examined as to whether she has an infection or not, likewise on the first evidence of any odor of the discharge, although I am aware that this is not a criterion of infection having taken place. In using the vaginal douche, it is not sufficient and it is not well to make use of any douche that is at hand. In a large number of cases the family has had a douche-bag with an assortment of nozzles, and these have been applied for the mother before confinement or before pregnancy, and then it has been used to irrigate some inflamed surface of the female; the baby's ear has been washed out with the same syringe, and a multitude of uses have been made of this syringe, before coming to the confinement-room. I always insist on a new douche being used in cases of confinement, if used at all. So in cases not running a normal course, as a rule, this douche should be applied.

As regards curettement of the uterus, we should go a little slowly respecting the application of the curette in every case. If you have retained membranes or a septic endometritis, of course the curette is of advantage; but it should not be a sharp curette. It has happened to innumerable operators of considerable skill that they have punctured the puerperal uterus;

its walls are very soft at that time, and several cases have been related to me personally where the uterus has been perforated by the curette. The time to make use of the curette is when there are in the uterine cavity a mass or masses of placental tissue; but a pair of forceps somewhat larger than the uterine dressing forceps may serve better than the curette. The point in question here is, whether the sharp curette will not open up the veins which have been occluded by a clot in the normal physiological processes after labor, and thus give micro-organisms an opportunity to travel farther on, infecting the uterine wall and broad ligament. While I advocate the curette, it is to be used with some caution. The irrigation curette, to which the doctor has referred, I think is a most exceptionally good idea; theoretically it is an excellent instrument, but I do not think it is a practical instrument, for the reason that our instruments are not always sterilized by ourselves. The sterilization and preparation of instruments and other materials used in an operation are very frequently left to the nurse or assistant.

I was called in to do a curettement with one of these irrigation curettes; I saw a long string of what I supposed was a blood-clot coming from the tube of this irrigation curette, which had been sterilized by a very competent nurse. The instrument had been sterilized as all the others had been, and when I attempted to allow water in the tube of the irrigator, which was, of course, cold, to flow through the curette, this large piece came out. Suppose I had been in a hurry and the irrigator had been filled with this accumulation? I would, without doubt, have injected a large mass of septic matter into the uterine cavity. Now, the possibility of such a thing is so apparent that I do not use this instrument. I am very well aware that there was faulty sterilization, yet it shows that this carelessness is possible, when competent nurses will let such a thing happen to them.

Referring to the point made by Dr. Dudley, relating to the infection of puerperal women by fæcal matter, this is one of the very newest points in obstetrics in regard to the kinds of micro-organisms which cause infection, and I am very glad that he mentioned it. It is a common and very frequent cause

of infection after labor, especially if there is a lacerated perinæum. The common colon bacillus is the infecting agent. It is carried by the nurse to the genitalia in the manner described by the doctor, not only during labor, but likewise after labor. The peculiarity of the infection is to cause the formation of gas in the inflamed area, and foul discharges mark its characteristics. This bacillus not only infects a woman in this manner, but infection likewise often takes place through the bowel and injured surface to an adherent uterus or adnexa—inflamed at one time—and an almost direct means of communication is thereby established whereby this micro-organism seeks entrance through the bowel to the inflamed adnexa and excites septic infection, causing you to wonder where the infection comes from.

I neglected to say, a moment ago, that I think the woman who shows signs of septic infection should be examined locally. I do not think we should simply be satisfied with taking her pulse and temperature, looking at her tongue, and ordering a vaginal douche, without careful instructions being given as to how it should be done, and without determining what antiseptic solution should be used, but we should place the patient across the bed in a strong light and examine the parts with absolutely sterile instruments. There are several preparations to be applied. One is crude carbolic acid, and that, I suppose, is as good as almost anything; carbolic acid in 50 per cent. strength has likewise been used; and when we have done this, and kept on our antiseptic treatment in other ways, irrigation, etc., we are in a position to know where the seat of infection exists, how the case is progressing, and can head off some of our severe cases that die in an unfortunate manner from puerperal spasms.

COMPLICATED TWIN LABOR.

D. C. KLINE, M.D., READING.

Cazeaux claims that twin pregnancies occur once in from seventy to eighty confinements. Fortunate it is, at least, that they are comparatively rare, for many a fond parent would be inclined to think the Lord was blessing him unduly well in giving them more than one babe at a time.

It has been my privilege to be present at a number of twin labors, but in comparatively few instances have both babes been well developed or thriven. In one case where the mother suffered from albuminuria, with convulsions, several hours after delivery, the one babe died within an hour, and the other was a miserable, rickety, frail child, but is still living, now probably six years of age. I very well recall a case which I attended some few years ago, being called at 2 A.M. to one of our suburbs, the husband informing me that his wife had been in labor for several hours and needed help badly. On reaching the patient I found the cervix dilated, membranes ruptured, amniotic fluid had already escaped, a cord prolapsed, and a twin pregnancy existing. One vertex was attempting to present, but was intercepted by the locking or wedging of the head of the second child upon the shoulders of the first; they were wedged firmly down into the pelvis, and the uterine contractions held them there. After considerable persistent effort during intervals of pain, I succeeded in extricating them by introducing my hand, lifting the second child up and allowing the vertex of first child to descend and engage—first child living, second dead, and no tears were shed. I was convinced that the grandmother had made an attempt to effect delivery, but, after failing, sent for me.

But the case of twin labor I wish especially to relate was one to which my friend, Dr. F. W. Seidel, summoned me for consultation in October, 1896.

We found Mrs. K., 34 years old, in her ninth confinement, including two miscarriages, thus making her the mother of ten children. We found a pale, anæmic woman, almost pulseless, apparently in a state of collapse from hæmorrhage. The doctor informed me that he had a case of placenta prævia, with excessive hæmorrhage, no pains or uterine contractions, a coil of funis prolapsed, and, he thought, a case of twins. I hastily, but thoroughly, washed and disinfected my hands and arms, and by the doctor's request proceeded to an examination. I found the cervix partially dilated, a funis protruding, and blood flowing as from a hydrant. Proceeding further, I came in contact with a placenta which had been attached to the entire circumference of the cervix, but was now partially detached from the left side of the uterus, thus causing the excessive hæmorrhage, and allowing the escape of amniotic fluid and descent of the funis. The vertex was presenting, but there was absolutely an entire absence of labor-pains, although ergot had been administered by mouth and subcutaneous injection. With the patient on an obstetrical pad, and brought near the edge of the bed, I carefully and promptly loosened the after-birth (which, however, in this instance, might be denominated a front-birth instead of after-birth), and delivered it, tied and severed the cord. During this time Dr. Seidel made compression over the abdomen to, if possible, aid contractions, or at least serve as a *vis a tergo*.

No signs of labor proceeding, however, and considering the patient's depleted and exhausted condition, we deemed it wise to empty the uterus, and therefore immediately applied the forceps to the vertex and delivered the first child. By the time this was accomplished, the abdominal compression being continued, I was enabled to reach the breech of the second child, and, with no special difficulty, succeeded in delivering it and the second placenta. While engaged in the delivery of the babes the fountain syringe had been filled with boiled water carbolized at a temperature of 115°, and with my dull douche curette washed and curetted the uterus, first, in order to remove any *débris* or remnants of after-birth, of which there was considerable, at the point of implantation of first placenta;

and, secondly, to gain the effect of the hot water upon the uterus in order, if possible, to aid contraction. While using the hot water we called for a cup of vinegar, heated and diluted with double the quantity of hot water, which I slowly threw into the womb to further aid the contractions and revive the patient. We then washed the patient, applied a wet bichloride dressing to the vulva, removed the blood-soaked bedding and placed her dry and comfortable, administered some stimulant, and left her cheerful, but weak or well-nigh depleted. She was kept perfectly quiet and at rest, not allowed to raise her head for a few days, and made a good and uneventful recovery. Both babes were, of course, dead, having that pale, waxy appearance, as though entirely free of blood. I have since learned that the mother is subject to convulsive seizures about four times a year, these occurring since her first confinement. There are five strong, healthy children living. A rather singular feature is that the husband spent the greater part of the day in the bath-room, suffering a severe attack of diarrhœa and vomiting; this he does each time the wife is confined.

This we regarded as a mixed case of labor: 1, excessive hæmorrhage; 2, prolapsed cord; 3, placenta prævia; 4, twin labor; 5, application of forceps; 6, breech presentation; 7, entire absence of pains throughout. The only redeeming feature in the case, seemingly, was a spacious vagina.

DISCUSSION.

Dr. Anna C. Clarke: I do not know that I have anything to say about twin pregnancy particularly, but I have relative to complications with pregnancy. I was called about two years ago to see a strong, healthy woman—a primipara. The pain seemed to be good, but she failed to make any progress. There was no pelvic deformity that we could detect, and in making examination carefully we could find no reason why labor should not progress. The pains stopped and I went home, but was summoned to come again; the woman was beginning to flow. I went back and found quite a severe hæmorrhage. The placenta certainly was not down, and I knew my woman had to

be delivered at once. I called in Dr. F. D. Brewster for consultation, and we performed manual dilatation. The os was not dilated larger than a fifty-cent or a dollar piece. I then put on forceps, and I put my finger well inside the os, put the patient with buttocks up—"breech-presentation." I found something that followed down the examining finger; it did not seem to be the child. I called Dr. Brewster's attention to it. It seemed as if he could make out something, but did not know what it was. When we put the forceps in, something pushed back like a valve, and after some work we commenced getting the child, and made a thorough examination of the parts. We were about five hours, with forceps on, in making traction.

Then we found a ring of cartilage that seemed to circle the inside of the pelvis and come down just like a valve. When the head came down it pushed that down, and succeeded in shutting off the exit; it was simply by stretching it that you could make sufficient room for delivery. The child was alive and the mother made an uninterrupted recovery. I still find that ring of cartilage now, and it is a question what to do with it.

HOMŒOPATHY IN ALBUMINURIC NEPHRITIS OF PREGNANCY.

EMMA T. SCHREINER, M.D., PHILADELPHIA.

I PROPOSE no study of the condition in question and have no new literature upon the subject to quote.

The treatment of these cases is a vexing question, and this small contribution is only written to show how, in a case which seemed more than usually mechanical, the mechanical methods of relief all failed, the latest specifics failed, and pure Homœopathy triumphed. The patient whose case I am about to narrate was a high liver, but extremely thin and nervous. She had consumed six quarts of brandy "as a medicine, with her meals," during pregnancy, before my account begins. She enjoyed good health until six weeks previous to full term, when

she had a sudden attack of suppression of urine, which, occurring during my absence from the city, was treated by an allopathic physician, a relative of the patient. On my return, one week after the trouble appeared, I found the quantity of urine about fourteen ounces daily. It solidified on boiling, and after standing showed about one-tenth clear urine at the top of the test tube. The microscope showed granular, hyaline, blood, epithelial and tube-casts, and the amount of urea excreted was far below normal. The œdema was excessive. Beginning with the ankles it extended upwards, and the limbs became simply enormous; the skin broke several times, and water exuded. The lower part of the trunk became so distended that very little motion was possible. There was a great pouch hanging over the pubes, and the back was thickly cushioned. Finally the neck became swollen and the glottis slightly involved, making swallowing difficult. The urine remained about the same in quantity, and was absolutely solid after boiling, with no marked change in other respects. There were spasmodic twitchings in the face and hands, and at times mental dullness.

During the whole time the patient was upon milk diet, and the remedies most approved by various consultants were used.

The much-lauded green tablets of cuprum ars. seemed to give a little comfort for a time, but soon lost effect.

The patient's last confinement had been a little ahead of date, owing to a fall from a hammock, and she gave me a date corresponding to this, and in advance of full term, as the time for her confinement. The time passing, I sought advice as to the desirability of inducing labor. The consultant examined the case carefully, and after the above facts were elicited advised non-interference. Apis was fixed upon as the indicated remedy, and given in the 30x dilution. The flow of urine began to increase after the second dose, becoming less molasses-like in appearance. The œdema grew less and the patient could move much more easily. One week later the patient had a natural labor exactly at full term, terminating in the birth of a fine boy in less than two hours from the commencement of the pains. The only spasm was a momentary rigidity, with rolling of the eyes.

During the twenty-four hours following the birth the patient passed twelve quarts of urine. The œdema rapidly subsided, and recovery was prompt and complete. A similar case occurring at about the same time was artificially delivered during the eighth month. The patient sank so low under the operation, and was so long in regaining anything like her former strength, that the trend of evidence seemed against interference.

Of the many fatal cases which have come under my observation, none has received close and careful homœopathic treatment and correct hygienic care.

REPORT OF THE SECTION OF GYNÆCOLOGY.

Primary Carcinoma of the Ovary, by T. J. Gramm, M.D.

What can we do for our Gynæcological Cases without Operation? by Mary A. Cooke, M.D.

Relief Obtained in Uterine Misplacements by Proper Medication in Connection with the Judicious Use of the Tampon, by Ella D. Goff, M.D.

Advantages of Vaginal Hysterectomy, by A. A. Lindabury, M.D.

Retro-Displacements: Ventro-Fixation, by J. H. McClelland, M.D.

Inflammation of the Cervical Mucous Membrane and its Treatment, by J. H. Thompson, M.D.

Women as Life Insurance Risks, by R. E. Tomlin, M.D.

The Value of Therapeutics in Gynæcology, by Julia Gould Waylan, M.D.

PRIMARY CARCINOMA OF THE OVARY.

T. J. GRAMM, M.D., PHILADELPHIA.

My interest in the subject of primary carcinoma of the ovary received its incentive from a case which recently came to my notice. The woman, a patient of Dr. H. A. Lacy, was 52 years of age, rather large, and had always been accustomed to hard work. She has had one child, twenty-three years ago, and no abortions. Her health was good until January 1, 1897, when she became ill and noticed a gradual enlargement of the abdomen, and at the same time had pains, rheumatic in character, in several joints. Dr. Lacy first visited her on May 13th, at which time he found the abdomen distended by a large hard tumor, but slightly movable. It was said that the bowels had not been moved for two weeks. She was emaciated, and the lower limbs were somewhat œdematous. After the bowels had been moved by means of rectal enemata and cathartics, the patient improved somewhat. When I saw the patient with Dr. Lacy she was confined to bed. The face was pale and of a somewhat yellowish color. The liver was not materially enlarged, and there was no albumin in the urine. The vaginal

secretion was apparently normal, and the cervix was in the condition usual to this period of life. In the vaginal vault the growth was felt, and in one place it was somewhat nodular. The fundus uteri was fixed in the right anterior part of the pelvis.

Although the case did not seem very hopeful, it was determined to give her the benefit of an abdominal operation, and for that purpose she was removed to the West Jersey Homœopathic Hospital for Women on June 8, 1897, where I operated on her June 12th, with the kind assistance of Drs. Geo. D. Woodward, E. M. Howard, and Charles Becker. On reaching the peritoneal cavity a large tumor was met, which was firmly imbedded in the pelvis, and fixed the uterus anterior to itself. The right Fallopian tube entered the growth by a cleft in its substance. The left ovary was found much smaller, globular in shape, and not nearly so adherent. The right ovarian tumor was enucleated from the pelvis with some difficulty, and the left one was tied off. A curious condition was found in the appendix vermiformis. The organ itself appeared to be normal in size and shape, but on the end of its free extremity there was a whitish nodule of hard consistency, and which did not communicate with the lumen of the appendix. Because of the condition found, the appendix was removed.

The larger right cancerous ovary accurately presented a cast of the inner part of the true pelvis, and posteriorly had the curve of the sacrum. The accompanying photograph gives its anterior view. The entire surface was nodular, and there were numerous adhesions. To touch, there was a fleshy feel, although not nearly so hard as a fibromyoma. This tumor was about five by seven inches in size. On section it was of brain-like consistency, and through it ran a meshwork of connective tissue. The smaller tumor, representing the left ovary, was globular in form, and nodulated. There were but few adhesions on its surface. The mesosalpinx, apparently free from disease, stretched over one side of the growth, while the tube was elongated, somewhat thickened, the fimbriated extremity closed, and the lumen distended by a clear fluid. This fluid was liberated from the tube while handling it, and, after lying

for a short time in the hardening fluid, obtained the shriveled appearance seen in the photograph. The cut surface of this tumor was the same as the one above described. The growth

Fig. 1.

Anterior Surface of Primary Carcinoma of the Right Ovary, 5 x 7 inches in size.

measured about three inches in diameter. Quite numerous microscopic sections were made in my laboratory of many parts of these tumors, and medullary carcinoma everywhere found.

The nodule on the end of the appendix, however, had a different structure in that it contained a much larger amount of fibrous stroma, but there were the usual nests of atypically arranged epithelial cells. The lumen of the appendix was free from disease, but in the mesoappendix were found three nests

Fig. 2.

Primary Carcinoma of the Left Ovary, 3 inches in diameter.

of cancer cells. The lining of the Fallopian tubes was free from cancer, but in one place in the walls of the tube there was a cancer nest. This lay much nearer the peritoneal covering than to the innner surface of the tube. The dendritic processes within the tubes were fewer in number than are found in younger women, and were also much thicker.

As a result of the operation the patient was much improved in her general condition, no symptoms of obstruction of the bowels existed, the œdema disappeared, and she was relieved from the pains in the limbs. Her improved condition, unfortunately, did not long continue, for in about six weeks Dr. Lacy thought he could detect an increased resistance in the lower part of the abdomen. Somewhat later the pains in the limbs returned, and the patient was confined to her bed. She died on November 10, 1897.

On November 11th the autopsy was held. The line of union of the abdominal incision was firm. Immediately beneath, on the peritoneal surface, there were nodules of carcinomatous infiltration. These did not exist at the time of the operation. The line of suture of the abdominal walls was excised entire, in order to be able to examine the tracts of the buried silver wire which had been used at the operation. The upper part of the abdominal cavity seemed free from cancer, though the liver was somewhat enlarged. The pelvis was, of course, filled with cancerous masses. The uterus, which was rather small, was easily separated from the cancerous growths, and was removed from the body for more careful examination. The vagina and rectum were normal.

On examining the uterus, its peritoneal covering was, of course, affected by the cancerous process which surrounded it, and on making an incision entirely through the body its tissues were seen to be involved; but the endometrium was singularly devoid of any appearance of cancer, and there was no ichorous discharge or other evidences of malignant degeneration. I regard this as a peculiarly interesting fact, and one which seemed to confirm my opinion that we had to deal with a case of primary carcinoma of the ovaries, and not one starting from the uterus. This belief was verified by microscopic examination of the uterine walls, the endometrium being free from cancer. The suture tract of the buried silver wire placed in the aponeurosis at the operation was examined in cross-section. Although at the time of the operation there was no evidence of carcinoma of the peritoneum near the line of incision, and although, when removed, the scar seemed to be healthy, yet the micro-

scope showed that the track of the silver wire was filled with cancer cells.

The interest of this case centres in the fact that it is one in which the carcinoma began primarily in the ovaries, from which it was disseminated to other organs. This is verified by the microscopic examination which showed that the endometrium and the lining of the Fallopian tubes were free, although their walls showed a late involvement, doubtless by means of their lymphatic communication with the ovaries. This also explains the absence of metrostaxis and of purulent or other discharges from the uterus, as would have been the case had the process started in the uterus. Infection through the channels as in the above case has often been observed, though Reichel believes that cancer germs growing in the ovary reach the uterus after the manner of the impregnated ovum and there develop; and Gebhard* has reported an instance where a papillary growth was probably thus carried to the cervix, and there developed teat-like excrescences in the portio vaginalis, leaving the uterine cavity free.

In addition to primary carcinoma, cancerous manifestations are found in the ovary quite commonly as the result of malignant degeneration of papillary cysts. Of this form there are many cases on record. This is possibly the most frequent form in which cancer is here found. An interesting association is that of carcinoma simultaneously appearing in a dermoid cyst, of which Krukenberg† has collected eight cases. Carcinomatous degeneration of a dermoid cyst is much more frequently found.‡ Cancer affecting the ovaries and the uterus at the same time has been studied by Littauer,§ who reports fourteen cases of this form in which the tubes were not involved. Sanger|| has met with a cancer which affected the ovary one year after the extirpation of a cancerous uterus, and the interesting point is that there was no recurrence at the vaginal scar, and in the abdominal cavity there were no other metastases to be found.

The reiterated statement that carcinoma of the ovary is

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* *Cent. f. Gyn.*, 1891, 576. † *Arch. f. Gyn.*, xxx., 241.

‡ See Martin, *Cent. f. Gyn.*, 1889, 185; and Thumin, *Arch. f. Gyn.*, liii., 547.

§ *Cent. f. Gyn.*, 1891, 68. || *Cent. f. Gyn.*, 1890, 557.

rare, and usually a secondary manifestation of the disease arising in some other organ, led me to make an examination of the literature of the subject, with the result that more or less complete records of over a hundred cases have rewarded my search. These, arranged in tabular form, are most interesting, but lack of space precludes their publication at this time. In several respects there has been some modification of opinion since Cohn* did his pioneer work, with reference to the subject of malignant diseases of the ovary, by collecting 100 cases from the extensive material offered at the clinic of Prof. Schroder. Freund also† has made a valuable contribution to the subject. Another similar collection of cases is reported by Leopold.‡ Lerch§ has written a very readable article, in which he exemplifies the various phases of carcinoma as it affects the ovary by a number of cases which he recites. From these and other articles we may obtain a very clear clinical picture of carcinoma, while the genesis of malignant new formations as they occur in the ovary is ably set forth by Nagel,|| and in the extensive array of articles to which he refers.

The frequency with which cancer affects the ovary can only be approximated. The supposed rarity of the primary form was doubtless due to the fact that if the conditions in the pelvis be not seen early, the extensive adhesions which so rapidly form completely mask the original starting-point of the process. The more frequent performance of early celiotomy and the more careful examinations of specimens have shown that the disease is more frequent than was supposed, and the entire subject was again opened by Cohn in publishing a series of 600 cases of ovarian tumors which occurred in the service of Schroder, of which there were 100 cases of malignant disease. Freund found 18.8 per cent. of malignant cases among 100 tumors; and in 116 cases of ovariotomy Leopold found 26 malignant, = 22.4 per cent. But in regard to the frequency of cancer originating *primarily* in the ovary, we may take the cases of Cohn, 100 in number, and of these there were 12 cases of

* *Zeitscher. f. Geb. u. Gyn.*, xii. † *Zeitschr. f. Geb. u. Gyn.*, xvii., 140.

‡ *Deutsch. Med. Wochenschr.*, January 27, 1887.

§ *Arch. Gyn.*, xxxiv., 944. || *Arch. f. Gyn.*, xxxiii., heft 1.

primary cancer, including one of adenoma malignum. Kratzenstein* has also observed 100 cases of malignant disease, operated by Olshausen, of which there were 18 cases of primary ovarian cancer. Leopold found 11 primary carcinomas among his 26 malignant cases.

The age of the patients merits a word of attention. We usually look for malignant manifestations of disease in the latter half of life, and yet in the cases which I have collected there are some noteworthy exceptions; so that it may be said that at the time of the menopause and at puberty carcinoma tends to affect the ovaries. Pfannenstiel says:† "Contrary to cancer of other organs, the fact first pointed out by Olshausen is to be emphasized, that cancer of the ovary frequently arises at a very early age, even during childhood, and indeed especially in the medullary form." In the series published by Lerch there is a case in a woman aged thirty-five years, and in another of thirty years. Gaiser‡ treated a woman of twenty-nine years who had no complaints from the tumor until she was about to be delivered. Odebrecht§ records a case in a twenty-seven-year-old woman. In Freund's published series appears the record of a woman of twenty-five years. Vineberg|| reports a twenty-one-year-old case who had been affected with metrorrhagia since puberty at the age of seventeen, and had always had an enlarged abdomen. In a series published by Kratzenstein¶ there is the record of a girl of nineteen years, and of another aged sixteen. Pfannenstiel mentions a fourteen-year-old girl whose case Fritsch has reported. In addition to these, Olshausen** mentions having seen cases in patients aged twenty-six, twenty-three, twenty-one, nineteen, twelve, eleven and eight years. The larger number of cases, of course, occur in those who have reached the later years of life. It has been pointed out that a peculiar malignancy and rapidity of growth attend those cases in which the carcinoma develops in young women.

The question of operation is one concerning which opinions

* *Zeitschr. f. Geb. u. Gyn.*, xxxvi., 61.

† *Handbuch der Gynekologie*, Bd. iii., heft 1.

‡ *Cent. f. Gyn.*, 1897, 974.

§ *Cent. f. Gyn.*, 1888, 122.

|| *N. Y. Jr., Gyn.*, 1894, 699.

¶ *Zeitschr. f. Geb. u. Gyn.*, xxxvi., 61.

** *Diseases of the Ovaries.*

have changed somewhat of late. Formerly, the diagnosis of cancer being moderately assured, operation was refrained from. The first fourteen cases of the twenty-two reported by Lerch were most likely seen during the time when this opinion prevailed, for when this condition was suspected the patients were retained but a short time in the hospital, and then discharged to be treated in the out-patient department. From his fifteenth case on, ovariotomy was attempted if there was any hope of removal, or an exploratory celiotomy was at least done, and the actual conditions noted. As a consequence, life was prolonged for periods up to a year and longer. The results have been better than this in certain cases. The fourteen-year-old girl of Fritsch was examined eight years after by Pfannenstiel and found to be well. Fritsch had three other cases in which there was freedom from disease of at least seven or eight years. Another case was well four and a half years after abdominal total extirpation for bilateral papillary ovarial carcinoma and simultaneous uterine carcinoma and myoma. Freund has always advocated the operation. He advises to operate all cases, even those which cannot be operated completely, in order to at least palliate. In his article he has reported a series of fifteen cases in which life was prolonged from nine to sixteen months, and in some of them the disease was surely far advanced. He also calls attention to the fact that those patients having far advanced disease bore operation well; and, also, "the former fear of septic inflammation after operating ovarian cancer is shown to be unfounded." He advocates operating even advanced cases, because the operation brings about a most remarkable improvement in their general condition, since interference with the performance of vital functions is abolished for a time; and, while recurrence takes place ultimately, yet the death of the sufferer is less painful and altogether less horrible than if we simply look on, after the diagnosis is made, and allow the disease to take its dreadful course. Cohn believes that we should no longer ask whether we shall operate these cases or quietly look on while the patient hastens to her death, but rather we should endeavor to determine which cases shall we or dare we operate, and when shall we operate. Also, in

how far do we run a risk by waiting, knowing, as we do, that a tumor benign in the beginning has a great tendency to take on malignant degeneration, as has been shown in many of the cases which are manifestly cases of carcinomatous or sarcomatous degeneration of previously benign tumors. Early operation is therefore strenuously advocated. Olshausen admits that treatment offers very little chance of permanent results, but advises not to hesitate to extirpate an ovarian cancer, if metastases are not present. Inasmuch as an entirely certain diagnosis of cancer is rarely possible unless metastases upon the peritonæum are demonstrable, we should proceed to celiotomy after the mere diagnosis of ovarian tumor, and after the incision has been made the tumor should not be left behind if it appears susceptible of complete extirpation. The question of extirpation assumes a different aspect when metastases are recognizable. If they are few, and situated in favorable localities, we should not fail to remove them, especially as their histological character is not always assured at the operation. He recited two cases in which metastases were present and were removed, and the patients lived one and two and a half years.

Regarding metastases, Freund has pointed out that while cancer spreads by continuity of tissue, and the small-celled infiltration rendering the tissue soft and succulent, the disease is carried to other places by means of the blood and lymph vessels; but, in addition to that, small portions of the original tumor may be separated by movements of the body and of the bowels and during the course of an examination, and these portions often fall into the lowest part of the abdominal cavity, into the pouch of Douglas, and into the excavatico vesico-uterinum, and are rather to be called implantations. These differ from the other metastases in that, while they are firmly adherent to their site by connective tissue, yet they have a greatly diminished blood supply, and he has rarely found any vessels of material size. They may be readily removed.

Diagnosis.—The results of operation until now, while much better than heretofore believed, leave very much to be desired. As has been shown, the operation offers more for the patient than was supposed, relieving her, as it does, of many of the in-

terferences with the performance of vital functions and making her death less horrible. Yet, in order to improve the advantages offered by any operative interference, it is absolutely essential that an early diagnosis be made. The tendency of the times is to operate ovarian tumors much earlier than formerly. The study of carcinoma, sarcoma and malignant degenerations of ovarian cysts should act as a pronounced incentive for urging early operation. The question of the diagnosis of a malignant tumor of the ovary is one, therefore, to which our attention may be directed with profit. One of the earliest symptoms of carcinoma of the ovary seems to be cessation of the *menses*. In the later stages of the disease the menses are always absent. Some of the cases affected at the time of puberty had menorrhagia and metrorrhagia. *Ascites* has been a very constant symptom observed in all the recorded cases; and during the time when ovarian cysts were punctured more frequently than at the present time, it was soon found that this collection of fluid rapidly returned after puncture. Ascites associated with a movable tumor of small size is a very suspicious sign. It has been pointed out by Frank* and others that ascites appearing in a woman, aside from diseases of the liver, kidneys and heart, can only occur from peritoneal tuberculosis, movable solid tumor of the ovary or uterus, and from malignant disease of the ovary.

Œdema of the lower extremities, while not appearing quite as early as ascites, must yet be called an early symptom, and one which Olshausen regards as a certain diagnostic sign. In the later stages it is always present, and is then due to compression of the veins from the many adhesions which form so early, and from infiltration of the lymph glands. Carcinoma of the ovary is often *bilateral*, as has been frequently noted in the reported cases. The tumors are at first pedicled, and hence movable. Soon, however, *dense adhesions* form with all the neighboring organs, and this has been one of the most constant observations. At this time, if not before, the growing tumor will be felt to be *nodular*. While the tumors are yet small they retain the shape of the ovary, or they are *spherical*

* *Am. Pract. and News*, July 10, 1897.

in outline. The disease often begins insidiously, and not until ascites becomes marked does the patient think of consulting the physician. In some instances, however, the cancerous disease begins acutely with inflammatory symptoms. Olshausen has recorded such a case, in which the patient was attacked by severe peritonitis, after which the abdomen remained enlarged, and she suffered from pain and ascites. The patient died within one year.

After the symptoms referred to have existed for some short time rapid emaciation supervenes. Anæmia and cachexia soon become well marked, and the end is not far off. *Pain* is by no means a constant symptom of carcinoma of the ovary. In many of the cases pain was entirely absent, while in others it was lancinating or burning in character. The rapid course of carcinoma in general is greatly augmented when the disease affects the ovary. It has been frequently recorded that only a few months have elapsed from the appearance of the first symptoms until the death of the patient; and in some instances the patient only lived a few weeks after considering herself sufficiently ill to consult a physician.

The diagnosis of carcinomatous degeneration of a pre-existing tumor, Cohn has pointed out, may be based on sudden rapid increase in the size of the growth, the appearance of ascites, which was not present until then, œdema of the lower extremities, aggravation of the general condition, and, in favorable cases, the palpation of indurated nodules.

It would be interesting now to look over the tabulated series of cases of primary carcinoma of the ovary which I have been able to collect from literature, but lack of space prevents their publication at this time.

WHAT CAN WE DO FOR OUR GYNÆCOLOGICAL CASES WITHOUT OPERATION?

MARY A. COOKE, M.D., PHILADELPHIA.

THE introduction of antisepsis has been fraught with untold advantage to the medical profession at large, and in no branch has the field been enlarged more than in that of gynæcology.

Operations which were unheard of before its advent are now performed with impunity, and numbers of women are enjoying comparatively good health who otherwise would have been doomed to lives of suffering; and no doubt many years have been added to the existence of not a few through the instrumentality of skillful and well-selected operations. But surgery is not a panacea for all the ills woman is heir to, and it is of the relief we can promise our patients outside the domain of operative work that I wish to speak of in this paper.

All of us who do gynæcological work doubless meet with some patients who might, and probably would, be benefited by a surgical operation, but who cannot be persuaded to submit to one. Then there are others whom we cannot conscientiously promise much relief from such a procedure. And still another class who are suffering from incurable disease, but whose remaining days we wish to be as free as possible from suffering.

What can we do for these patients? Some of these women are not fit subjects for anæsthesia by reason of the condition of heart or lungs, and others think they cannot take an anæsthetic, though careful examination fails to reveal any lesion which might account for this dread; and there are a certain number of these whose fear cannot be overcome, though most women will cheerfully yield when assured there is no evidence of unusual danger.

Especially in the lower walks of life there are many women who, unless it is a matter of life or death, do not feel that they can spare the necessary time from their ordinary voca-

tions which would be needed for their recovery from an operation, and they feel that they must endure the discomfort from which they are suffering rather than submit those dependent on them to the inconveniences and privations which would result from their being laid aside for a time.

There are also women past middle life, especially those who have borne several children and often have not taken the requisite rest after childbirth, whose tissues have become so relaxed that any plastic work which might be done would at best be only a temporary relief.

It is with the hope of hearing from a number of my fellow-practitioners of the remedies and appliances they have found useful in similar circumstances that I bring this paper before you.

Although we do not expect to repair a lacerated perinænum or remove a cancerous uterus with drugs, still the carefully selected remedy will often work wonders, and this may be combined with hygienic, mechanical and electrical treatment with great benefit to the patient. True, perhaps, that records of provings of some of our drugs on the genital organs of women are not as full and accurate as could be desired; still, with a little careful study I believe we can be possessed of valuable aid from this source.

Our patient's temperament, appearance, nervous symptoms, digestion, sleep, etc., will often give us points in the selection of our drugs when the pelvic symptoms themselves are less clear.

It is not my intention to weary you with a long list of drugs, and especially the polychrests, the indications of which are so well known to each of you, but I will simply mention a few which have done me good service.

First on the list come our old and tried friends aco., bell., bry., cal. carb., apis, caulophyllum, cimicifuga, conium, canthar., gelsemium, the mercuries, mag. phos. and magn. mur., puls., rhus tox., sepia, sulphur, and zincum.

Agaricus I found useful in a patient who had undergone an operation for repair of the cervix with success, but who still suffered from leucorrhœa coming on in gushes, especially at night, and with so much force as to awaken her from sleep.

Apis I find of service in ovarian involvement, with the characteristic pains, especially on right side.

Caulophyllum, feeling of congestion in the uterus, spasmodic pains, dysmenorrhœa.

Cimicifuga. Backache is a prominent symptom, especially when combined with great nervousness, depression and sleeplessness.

Conium in indurated condition of cervix, pointing to a possible tendency to malignancy. Can be combined with glycerin and used locally.

Helonias, bloating of abdomen, pruritus, bearing down.

Lilium tig., uterine and ovarian pains, feeling of weight.

Nux mos., tendency to hysteria; also under zincum val.

Trillium, sabina, secale, uterine hæmorrhage.

Viburnum opulus, dysmenorrhœa, spasmodic or neuralgic in character.

Constipation is a very frequent complication in gynæcological cases. I have numbers of patients who, coming for the first time, state that for months, and perhaps years, they have never had a natural evacuation of the bowels. In some of these cases a displaced uterus or an enlarged cervix or ovary presents mechanical obstruction; but often the condition depends upon atony aggravated if not caused by the constant use of cathartic medicines, excessive amounts of tea, improper diet, etc.

In many of these cases the constipation is most difficult to overcome; but much can be done by proper remedies, aided by regulation of diet, advising fruit in moderation, taking plenty of cold water and hot water on rising, kneading the bowels, etc.

Nux vomica has, I think, done me most service in these cases, but there are others which have yielded to sulph., collinsonia, bryonia, sepia or silicea.

With regard to tampons of wool, cotton, etc., in many instances they are extremely useful for applying medicated glycerin or a cerate directly to a sensitive or eroded cervix, and we have the depleting power of the glycerin to aid us in reducing an enlarged and congested cervix. In cases of prolapsus or retro-displacements they also give us valuable aid, and

often give immediate relief to the patient, thus giving us time to better the general as well as the local condition of the sufferer by other means. Of course the frequency with which they must be applied is a serious objection. Pessaries are unconditionally condemned by some physicians and considered almost indispensable by others. At the best they are but makeshifts, but there are times when they have served my purpose as nothing else that I know of would have done. In women, usually of advanced years, suffering from relaxed conditions of the vagina, many times accompanied by a lacerated perinæum resulting in rectocele and cystocele, a pessary can frequently be used with good results. When the patient can bear it, I think the best result can be obtained from some of the various forms of cup or ring pessaries with a stem which is attached to an abdominal belt with straps. These afford support without unduly distending the vagina. In cases where the cervix is eroded I have found the ring to be superior to the cup, as it allows of support without making direct pressure on the sensitive cervix. To some patients, however, the discomfort of the abdominal belt and perineal straps is insupportable.

I have used the circular disk-shaped pessary in cases where the belt could not be worn. The objection to these is that they have a tendency to so distend the already relaxed vaginal walls as to later on necessitate the exchange of the instrument for one of larger size. Then some patients, finding relief from them, do not return to the physician sufficiently often for their removal, and they become a source of irritation, and many times finally ulcerate through the walls of the vagina. Or, if not reaching this stage, still an amount of pressure may be exerted on the bladder or rectum serious enough to cause trouble with those organs.

In retro-displacements of the uterus where adhesions have not taken place, a pessary may often be used with advantage to keep the organ in proper position after replacement. For this purpose one of the various modifications of the Hodge pessary is best adapted. An instrument of this kind is sometimes used with advantage in some cases of prolapsus.

Massage of the pelvic organs, when intelligently applied, is

no doubt of value in many instances. It tends to improve circulation and overcome congestion, as well as adds strength to the weakened ligaments.

Many patients will experience relief from assuming the genu-pectoral position on retiring, and remaining in it from five to ten minutes. Electricity is another valuable ally at our command, as many of you have undoubtedly found. One difficulty which I have met with in its use is that the directions given for its application by different authorities seem to differ in some instances.

Still, I have used it in a number of cases where I feel sure the patient received great benefit from its application. The galvanic, faradic and static currents are all used in gynæcology, but with the latter I have had no experience. The currents may be used either externally, the electrodes being placed on the abdomen and sacral region respectively, or one pole of the galvanic or both of the faradic may be used in the vagina, rectum or uterus.

Of the galvanic current it must be observed, as a general rule, that the positive pole is anæsthetic, the less painful, and its tendency is to check hæmorrhage and cause absorption. The negative pole is caustic and irritating in its action. It is therefore more painful than the positive, and its tendency is to produce hæmorrhage and destroy tissue.

There is not so much difference in the action of the poles of the faradic battery, but its effect depends much on the kind of a coil used for the secondary current, also the slowness or rapidity of the interruptions. It is also essential that its maximum intensity be attained gradually. The coil of many yards of fine wire, with rapid interruptions, relieves pain, while the shorter, coarser wire coil, with slow interruptions, excites contractions.

Many times the faradic current used for a short time before the introduction of the galvanic is of marked benefit in rendering the parts less sensitive to pain. Whether or not galvanism has any action on bacteria may be, perhaps, an open question, but there is no doubt that the action of the current is such as to stimulate the mucous membrane and muscular tissue, and by

this means assists in throwing off the altered material which is found in endometritis and endocervicitis. If the current is used strong enough, we have destruction by electrolitic action; but, even when this caustic effect is not reached, the tissue stimulation of milder currents is very beneficial. The alteration of nerve tone under the different poles, that of the positive being stimulating and that of the negative sedative, can be made of immense therapeutic value. Besides endometritis, which I have mentioned above, I will briefly enumerate a few of the conditions in which electricity may come to our aid.

Amenorrhœa, especially in young girls, is often successfully treated by this agent. In these cases both the galvanic and faradic currents are useful.

Stenosis of the os may be overcome by mild galvanic currents, one pole, usually the negative, being used internally, the other on the abdomen.

For dysmenorrhœa and subinvolution, both the galvanic and faradic currents are useful.

Inflammatory exudates may be absorbed by means of galvanism. When there is much sensitiveness, this treatment may be preceded by the use of the faradic current of tension,—the long, fine wire coil, with rapid interruption.

In cases of relaxed vagina, tone may be given to the vaginal walls by the application of galvanism. Ovarian neuralgia and ovaritis may call for both faradism and galvanism. If degenerative changes have taken place in the ovary we cannot hope for much from this treatment; but even in these conditions we can do no harm, and may do good, by judiciously applied electrical treatment.

We are all familiar with the success Apostoli has met with in the treatment of fibroid tumors with electro puncture, but unfortunately, in the hands of many other operators who have followed in his footsteps, the like happy results have not followed.

Massey advocates the early treatment of fibroid conditions of the uterus with galvanism, either intra-uterine or vaginal, as the conditions of each case may decide. He claims that many times great relief can be obtained, and even an entire cure

made, by the application of galvanism to these growths before they have reached any size.

In large tumors, where hæmorrhage is a prominent symptom, relief from this continual drain on the system may be obtained by the use of electricity if the conditions are such that one pole in the form of a sound can be introduced into the uterus. In this case the positive pole should be used in the uterus, while a large negative electrode in the form of a clay pad or woven wire, covered with several thicknesses of cotton, and well moistened, is to be placed on the abdomen. A strong current is often borne well under this treatment.

I must freely confess that in spite of all these aids I have a number of times met with gynæcological cases where I have not been able to afford as much relief as I desired to do. Still, on the other hand, I have often seen great results from the use of the various methods of which I have written.

RELIEF OBTAINED IN UTERINE MISPLACEMENTS BY PROPER MEDICATION IN CONNECTION WITH THE JUDICIOUS USE OF THE TAMPON.

ELLA D. GOFF, M.D., ALLEGHENY.

It is the purpose of this article to illustrate, by the records of a few cases of "procidentia uteri" in which restoration was almost complete, the methods which are mentioned in the title of the paper.

That procidentia uteri occurs in the unmarried as well as in the matron is acknowledged; but most frequently the condition is found in elderly women of medium stature who are inclined to become fleshy as age advances.

Among the various causes mentioned which are said to induce this malady are the weakening of the uterine ligaments, either by protracted labor or long-continued illness, constipation, rupture of the perinæum, lifting and carrying heavy weights, a severe fall, and influences of senility.

In cases of procidentia uteri it is common to find a sagging of the viscera of the abdomen, pressing more or less heavily upon the pelvic organs, and, in this condition, support from below will subject these organs to pressure both up and down; consequently the ordinary means of support from below are much less likely in giving relief and restoring the organ than would be the case if the downward pressure did not exist. In such conditions the natural curves of the spine are to a greater or less degree changed, and the distance between the attachments of those organs and the pelvic brim are shortened, which continues to be the condition until the natural tone of the dragging viscera is restored; hence more must be done than merely furnishing support to the prolapsing uterus. This is accomplished by proper medication and hygienic influences, such as the adjustment of the clothing and placing the weight of heavy skirts and dresses upon the shoulders instead of keeping them in position by tight bands around the waist, thereby encroaching upon the organs of digestion. The diet should be wholesome and nourishing. Out-of-door exercise is desirable in these cases; in many instances the moderate use of the wheel has an exhilarating influence, giving tone to the body and restoring strength to the weakened organ.

In cases of procidentia uteri, frequent adjustment of the organ and a proper use of the tampon in connection with the administration of the indicated medicine has proven beneficial to many patients.

The tampon, to be most beneficial to the average patient, need not be longer than the width of the vagina, or thicker in the average case than the forefinger of the individual, unless indicated by the laxity of the parts, and should usually be made of antiseptic cotton prepared for surgical use, and cylindrical in shape, rolled moderately firm, and tied near the centre with a cord of sufficient strength to be drawn tightly. The ends of the tampon should be slightly rounded, to allow it to be more readily adjusted to the space which it is to occupy. The uterus, when it has slipped much below the normal position, after being anointed with glycerole, can be passed back and upward into the natural position, by the use of the elevator, or

in most cases by expanding of the bivalve speculum of suitable size and shape; when in position introduce the tampon, which has been thoroughly saturated with the glycerole of the medicine indicated. It can be most readily introduced into the vagina through the speculum, and it should carry with it enough of the glycerole to thoroughly saturate the cervix, and, where the cervical canal is patulous, the cervical opening, as well as the walls of the vagina. After the speculum has been withdrawn, adjust the tampon, pressing it into the *cul-de-sac* back of the cervix. It is best to place the tampon with the finger, as it enables one to be sure that the tampon is just where it is intended to be, and where it will do the most efficient work. In that position the tampon will form a support for the uterus, stimulate circulation, prevent friction of the membranes, and permit the medicine to trickle over the inflamed surfaces. The application of the glycerole produces a free discharge which lessens the size and weight of the engorged member. This is most frequently seen after the first few applications. The tampon may not be large enough to exert much power, but it has a staying influence in sustaining the position of the prolapsing organ.

Cases.

Mrs. K., a woman of medium height, with a fresh complexion and rather fleshy, came to the office on the 14th of February, 1893. She had had a severe fall, the winter before, by her feet slipping from under her on the ice and letting her sit down heavily on the street. From this time forward she suffered from backache and dragging from the vagina, and when she presented herself for treatment the vagina was inverted, and with it the uterus, which was entirely outside of the vulva. It was dry and chafed, causing some difficulty in micturating, bowels constipated, with more or less pain in the vagina. The parts were thoroughly anointed with a glycerole of hydrastis, and pressed back to their normal position while the patient was in a horizontal position on the back with the limbs flexed; and when the uterus was in position, a large-sized bivalve speculum being in the vagina, a tampon thoroughly saturated with the glycerole was placed within the *cul-de-sac*, and the indi-

cated remedy, which was belladonna, 6x, was given four times per day.

These treatments were repeated three or four times during the month, with direction to the patient to have the prolapsing parts returned to their proper position as near as she could without waiting for outside assistance. This treatment was continued at varying intervals during the summer and fall following; sometimes three months passed without a treatment. Under this management the uterus, which was large at first, became smaller, and after a time ceased to come through the genital opening. Six months elapsed without attention, and then within a month or six weeks two or three treatments would be given, after which several months passed before she returned. Since last summer, nine months elapsed without her making a visit to the office for treatment. During the month of July she was in twice for treatment. The dragging sensation has returned, but no prolapsus. On investigation, the uterus was found to be of virgin size and resting very nearly in normal position. The medication mainly made use of was belladonna, 6x and 12x. Other medicines were used from time to time, as the symptoms changed from cold or other causes.

Mrs. M., aged 52, florid, short, and very fleshy; Scottish birth; suffering with periodical headaches, weary back and sore loins, with profuse menstruation unduly prolonged, the discharges scalding the cervix, cervical opening, vaginal walls, and the labia. The vaginal walls were thickened, the cervix broad and patulous, and the labia swollen. The uterus was somewhat retroverted, large, and occupying a position just inside the vaginal opening. The largest sized Higbee speculum, passed into the vagina, always corrected the retroversion and brought the uterus to a natural position, and when in that position, a tampon properly placed relieved the patient for the time being of most of the local suffering. A treatment of this kind each week in a short time healed the abraded surfaces and reduced the size of the uterus so that it did not rest so helplessly on the floor of the pelvis. The medication used in her case was pulsatilla, nux vomica, nitric acid, sepia, ledum,

argentum nitricum, iris versicolor and spigelia. She menstruates at present only at long intervals, and still suffers more or less with headache at that time. The uterus has been reduced to a very moderate size, with scarcely more discharge than would be natural, and not to any great degree irritating. Its position is but slightly abnormal; and, with its reduced size and slight abnormality, it bids fair to be brought back to its position after the menopause.

Mrs. W., aged 73, dark complexion, dark hair turning to gray, with here and there bare places on the scalp from which the hair had fallen, of squatty form, medium weight, active temperament, and an industrious housekeeper, came for treatment, complaining of a weary back, dragging uterus, and more or less discharge. Upon being placed upon the back for examination, the uterus was found to be entirely outside of the vulva, and very much abraded and bleeding. The undergarments were quite bloody from the friction of the parts in walking. The parts had been cleansed prior to her leaving home. Notwithstanding this, they were again covered with blood, as were also the clean garments put on before starting for the office. In her case the uterus was not so large as in the other two cases, but it was much more irritable. She received the same mechanical treatment as the others, and with proper medication the part was eventually brought to maintain a position inside of the vagina and the abrasions healed. She received belladonna, natrum arsenicum and nux vomica, as they were indicated. She has not appeared during the last year, and it is supposed that she is free from the more distressing symptoms.

In November, 1896, saw Mrs. S., at her home. She was a fleshy woman in the seventies, fair complexion and of medium height, exceedingly nervous, with lapsing memory, constipated, scant and burning urine, inclined to be wakeful, and disposed to wander through the house at night. She spent the greater portion of the time on a couch, as an erect position or walking was only accomplished with pain and inconvenience. When first examined she would not assume the dorsal position, but would lie on the left side with the limbs flexed. The uterus

was entirely outside of the vulva; the parts were raw and chafed. The prolapsing part in places was covered with a bloody mucus, which had dried in some places, leaving a rough, scaly appearance of the surface; and in other places it was moist and tender. The vaginal walls were in a lax condition. After the uterus and the prolapsing part of the vagina had been thoroughly anointed, the hand was well oiled and the uterus was pressed into position, and a tampon of suitable size, thoroughly saturated with a glycerole of hydrastis, was passed within the vagina and pressed into the *cul-de-sac* behind the cervix. It is almost needless to remark that after the first treatments neither the uterus nor the tampon remained in position for any length of time. But by repeating the treatments every two or three days the parts were restored to their natural condition and the structure strengthened so that a tampon would retain the uterus in position for a day or two at a time. The general health of the patient improved, and in a few months she was able to assume some of the light duties she had been accustomed to before the sickness; and she was able to go through the house or take a short drive with little inconvenience. After the first two or three treatments the cerate of staphisagria was used on the tampon instead of the glycerole of hydrastis, as it was better borne by the inflamed surfaces. The remedies given were belladonna, opium, benzoic acid, cantharides, aconite, and sarsaparilla.

DISCUSSION.

Dr. J. C. Burgher: If you employ antiseptic wool instead of the tampon of antiseptic cotton used by Dr. Goff, you will find that it answers better in that it does not pack together. I do not think that any tampon should remain in the vagina longer than twenty-four hours.

Dr. Anna C. Clarke: I believe in the curette; I believe in it very thoroughly; I believe in the tampon, and that good work is done with it. I believe that we can help not only the condition brought out this morning, but can help displaced ovaries with a good tampon, when the neighboring tissues are not too sore to allow support. I have been having a siege with

them. I think using the tampon strengthens the ligaments; if not with the antiseptic wool tampon, then the cotton, and with internal medication. It certainly does relieve anteplaced ovaries, unless the organs are so inflamed that they cannot be supported. I had a case of acute trouble a few weeks ago which was a curio in one way. I never before found a woman who said that she laced. This was a Philadelphia woman, noted for her honesty, who said she did lace. One morning she put on her corset, pushed herself down this way (indicating) and felt something give way in the right side; it pained her exceedingly—so much, indeed, that she had to go to bed. The right ovary was in the *cul-de-sac* and the woman was pretty sore. I directed that she have absolute rest and used the tampon with hot water, kept it supported in the right position, and thought that if the ovary could regain its proper position, certainly that was taken in time enough to do it. The patient was in bed for nearly three weeks, and it was either absolute rest or the indicated remedy (the indications in this case being a constant sense of weight and pressure. Belladonna 1st relieved the acute symptoms, and then arnica 30th), which seemed to benefit. Anyway, the ovary went back, and when she wrote me a few days ago she said that she had not had any return; she had taken off her corsets altogether; and I believe that the tampon there certainly helped us out of a great deal of trouble.

Dr. T. H. Carmichael: In addition to the method advised, I have found the knee-chest position in displacements a very great advantage, and it has become almost a rule with me to recommend it to patients in the office; and, in addition, to show them the method, for I find that with a description they invariably forget the important parts, namely, to introduce a finger or two into the vagina and pull back so as to allow the air to rush in. I believe that method would be a very effectual aid.

Dr. Theo. J. Gramm: This paper certainly points out a means of treating cases of displacement of the uterus, especially downward displacements, in a manner to avoid a serious surgical operation. Now, the *rationale* of this treatment is that

the uterine vessels are allowed to perform their function by keeping the uterus in place, and it is almost incredible to anyone who has not watched such a case to see the amount of actual tissue-change that takes place in an enlarged uterus after being persistently kept in position—far more than one would believe; and I think that the methods advocated in this paper are certainly worthy of consideration, especially when we do not want to operate the cases in a more radical way.

Dr. I. G. Smedley: I would like to mention the subject of material of the tampon, *i.e.*, the use of wool. I have been using for some time, in cases of displacements, a gauze bandage saturated with a medicament, whatever it may be, packed in around the cervix, uterus and parts. It fits them more readily than the ordinary tampon of cotton or wool. Sometimes I have used the ordinary sterilized cotton pad, but have been much pleased by the use of the ordinary plain gauze bandage, sterilized, and saturated with a medicament, packed around the *cul-de-sac* or cervix; it fits better and stays in better than the ordinary tampon. Part of it may be pushed out and the end can be cut off, leaving the rest stay in for forty-eight hours, the usual time.

Dr. Ella D. Goff: I have tried the wool, but it was not satisfactory; it seemed to pack more than the cotton; also, the knee-chest position has been recommended and used in all of these cases.

ADVANTAGES OF VAGINAL HYSTERECTOMY.

A. A. LINDABURY, M.D., SCRANTON.

At this age of gynæcological surgery I thought it proper to mention before this learned body of gynæcologists a few of the advantages of vaginal hysterectomy. I will not attempt to go into the full details of the subject, or its history, as I deem all are familiar with the subject.

To write an essay to sufficiently cover its domain would require more time than has been allowed me on this paper.

The subject of vaginal hysterectomy seems to have been underrated in importance and overrated as to danger. It has, until of recent date, received but little attention to what its great advantages should merit. In our American text-books on gynæcology this subject has been quite ignored, except on rare occasions, by the average gynæcologist. That this should not be so has been amply demonstrated by men of talent in this important art. At the present, when gynæcological surgery has reached such an exalted sphere, vaginal hysterectomy should, it seems, have precedence of the abdominal method in vogue in most cases.

In using the term "vaginal hysterectomy," I wish it understood that the method of the operation will allow its termination at any point, a great consideration in case of faulty diagnosis. Such operations as the removal of the appendages of the uterus in the great majority of cases can be performed much easier, with less danger, and but scarcely any after-effects, than can be done by the abdominal route.

By using the clamp method it is *par excellence* the operation in pelvic abscess complications. It gives a natural, easy and safe drainage which cannot be gotten by the abdominal route with such satisfaction, thus meeting the requirements of the universal surgical principles which demand open drainage for all inflammatory or suppurative processes, providing the peritoneal sac is not closed.

In uncomplicated bilateral diseases, namely, pyosalpinx and suppurating ovarian cysts, it has the advantage, in that their removal can be accomplished without contaminating the abdominal peritonæum with their contents, which so often proves disastrous to our patient, in that their immediate removal carries them away from the danger-line or field of septic absorption. That part of the pelvic and abdominal cavities which otherwise would be exposed to handling with the fingers and the risk of septic infection carried by the same agent either going in or coming out from the field of operation is unmolested.

If there be a rupture in the manipulation of these organs, the contents set free escape by the law of gravitation into the vaginal canal, and their removal is made easy. This method

also has the advantage in that it is not necessary to flush out the abdominal cavity after such rupture. All such material can be mopped out with sterilized gauze.

It has the advantage that the omentum or intestines or any of the organs not to be removed are not touched with the hands. Should the omentum or intestines show themselves, they are placed back by sterilized gauze grasped by forceps for that purpose.

In using the clamp, gauze should be carefully packed around and between the instruments, also a strip of sterilized gauze should be placed well up in the apex of the vaginal vault, around which will be formed membrane and new adhesions which will soon shut off the peritoneal cavity, thus making the wounded field extra peritoneal. Here we have union both primary and by granulation, which, when complete, makes a firm floor. I know of no case of hernia following.

In removing the uterus and its appendages by the vaginal route, by competent hands, there is but little danger, and convalescence is much quicker than by the abdominal route. This being the case, as statistics have shown, the operation commends itself in many cases to the palliative treatment now in vogue by those who are extremely conservative on the point of vaginal hysterectomy.

There are many pathological conditions to which the uterus is subject quite incurable, or, if curable, are likely to recur from slight causes—conditions which make the uterus sterile; conditions that do not primarily belong to the uterus, but its appendages, causing sterility.

If the primary cause, only, be removed, such as ovaries and tubes, the useless organ, the uterus, remains to continue its torment, direct or indirect, through its acquired pathological condition—direct by the inflammation which it possesses within its parenchyma or the adhesions and inflammatory attachments surrounding it; indirectly by its nerve supply.

Of course, after such removal of appendages, atrophy, to some extent, takes place, with a subsidence of inflammatory action, in a great degree, but that does not relieve the adhesions and those nerves and vessels bound down.

The advantage to be derived by the complete extirpation of uterus and appendages at one operation through the vagina are that the entire cause of the illness is removed and the patient restored to health in the safest, most plausible and speedy manner.

Vaginal hysterectomy is the safest and most speedy method of relieving suffering woman of her ailing genitalia when the tubes and ovaries are diseased, dependent on a condition or cause found in the uterus. She is often freed from her ovaries and tubes, makes a good recovery from the operation, but so far as the removal of the cause of her illness is concerned, it has not been accomplished.

The cause lies in an inflammatory uterine tissue bound down by adhesions pressing the uterine and pelvic nerves; quite all the symptoms she possessed before the operation are still in her possession.

The advantage in her case would have been a dispossession of all her unnatural symptoms dependent on her diseased genitalia, had her gynæcologist performed a complete vaginal hysterectomy. A complete cure would have been the result, and, in the essayist's opinion, the only cure.

Do not misunderstand me as condemning the operation for the removal of ovaries and tubes for diseases in which the cause lies within them. That is a perfectly rational procedure, one that is commendable. But the number of oöphoro-salpingectomies that are justifiable without the hysterectomy are very few compared with the great number that are justified with it.

It is an undeniable fact that multitudes of women have been persuaded to submit to the operation of having their ovaries removed that have never been in the least benefited by it, who in all probability would have been cured had the vaginal hysterectomy been done, and a life of suffering would have been converted into one of bliss and happiness.

Every gynæcologist of any considerable experience can testify to the truthfulness of this statement. Cases of nervous trouble and insanity have been cured and others very greatly benefited by vaginal hysterectomy.

Multitudes of women have in the past, and I am very sorry

to say are at present, so unfortunate as to fall into the hands of gynæcological surgeons who seemingly have an ambition to see how many ovaries they can remove to make records and change statistics.

I would not like to say that this operation had been done without any exertion on the part of the operator to properly diagnose his case before he cut, or that he felt it necessary to cut something in order to convince his patient that he was doing something for her, or that, not being a master with the scalpel or the subject at hand, he had pounced upon the weaker, which happened to be the ovaries, and relieved the patient of, very often, an inoffensive part of her anatomy.

Even when the cause may have originated in the ovaries or tubes, and changes have been brought about in the uterus as a result, changes which in themselves become primary causes of illness, the advantages of a vaginal hysterectomy in such a case are too great to be compared with a condition maintained by a useless organ.

To remove the uterus and its adnexa in some cases is not practical. But, in such cases, the adnexa, if left, will undergo atrophy, the cause being removed. When there is no dangerous pathological formation, there is no evil in leaving them to nature to subdue, providing there is no material left to cause sepsis.

It is pre-eminently advantageous in all cancerous conditions of the uterus, when not too large, and if done early enough to, in the great majority of cases, effect a cure, in others prolong life, and still others relieve pain to a marked extent, sufficiently so to make the operation justifiable, even while it may not promise anything in the way of a cure or prolong life, or even when the whole cancerous mass cannot be eradicated.

It is of no less advantage to do this operation in some cases of metritis and endometritis when there is much enlargement of the uterus accompanied by hæmorrhage which by its persistent and excessive flow endangers health and very often life. Of course other measures should be tried, such as curettement, etc., before resorting to this most radical as well as most rational procedure. This operation may save them, will in all probability cure them.

Another fact is the pressure of senile or intramural fibroid tumors which are so situated that they cause pain by pressing on some one particular spot in the pelvis.

Very often we meet small fibroids so situated as to press upon the bladder, ureter or rectum, which, if they were located in some other spot would pass quite unnoticed, but, situated as they are, are capable in time of producing death. Here vaginal hysterectomy is a very advantageous procedure. If the tumor is too large it can very easily be reduced by morcellment.

In the more pronounced forms of prolapsus uteri, when all other methods have failed, as perineorrhaphy, elytrorrhaphy and pessaries, even abdominal fixation has not proven to be what was claimed for it, and now most gynæcologists of particular note have relegated this once famous operation for prolapsus to the same plane that its predecessors occupy.

Do not understand me as stating that these operations are failures. They are not. In moderate cases they quite meet the requirements, but in the more aggravated cases they are complete failures, and just here is where vaginal hysterectomy comes in so nicely.

The uterus removed, the walls of the vaginal vault fastened to the stump of the broad ligaments which atrophy draws up, the lax vaginal tissues, cures the prolapsus of the uterus, bladder and rectum. A most radical but justifiable operation. I know of no case of hernia following this operation where it has been carried out by skilled hands.

There is also a great advantage in this to the abdominal operation, in that there is no possibility for abdominal hernia, which is so often the case where the abdominal incision is made. All methods, of which there are many, to close the abdominal wound successfully against hernia have, at times, failed.

There are also no adhesions to form to the anterior walls of the abdomen, which so often give annoyance to patients for long periods after convalescence. Operative shock is avoided, convalescence is easier than after the more popular method, and its duration is relatively and absolutely shortened.

Last, but not least, I wish to say that in the last two hundred vaginal hysterectomies performed by Prof. Leopold Landau, of Berlin, in his Frauenklinik, he had not a single death, except in incurable cases of malignant diseases. This, of itself, speaks most commendably for the operation.

DISCUSSION.

Dr. J. C. Wood: Dr. Lindabury has covered the subject of vaginal hysterectomy so completely that there is but little to say. I think, perhaps, some things might be said regarding the disadvantages of the operation. Your time is so limited that I will simply state that I am not performing hysterectomy as I did two, three, four, or five years ago. I prefer the work through the abdominal route more often than I did at that time, and it is due to the fact that the Trendelenburg posture has changed the whole technique of hysterectomies. I am becoming more convinced that if we are going to do radical work in hysterectomy for carcinoma, it is necessary to work through the abdomen alone, or through the vagina and abdomen, beginning in the vagina and finishing up in the abdomen. I am inclined to believe that we can eradicate the disease much more thoroughly through the abdomen with the patient in the Trendelenburg posture, working close to the pelvis and enucleating the glands. If they are large they cannot be detected through the vagina alone. My permanent recoveries are more numerous since I have been doing this more radical operation, locating the uterus by the method of Pryor or Kelley. One point in connection with pus-tubes, I believe, has been overlooked by writers. Pyo- and hydro-salpinx in diseases of the appendages and malignant diseases of the uterus are associated with this subject, and therefore, where there is the least suspicion of their existence, I believe we should perform a thorough and radical enucleation of the uterus with the appendages. However, if they are not present, or if the uterus is in a fairly good condition, it is possible by reparation of the lacerated cervix to save it. I am not one of those who believe that the uterus is a useless organ. Taking it all in all, with the possibility of fixing the uterus in front, according to one of the

methods described here this morning, I believe we can save the uterus many times to the advantage of the patient, and where this is done I believe that we should be conservative and not sacrifice any organ of the body where there is a reasonable probability of saving it, although my sentiments would not carry me so far as to leave the uterus behind when it is dangerous or a menace to life or future happiness of the woman. Dr. Lindabury has covered the ground so nicely that I simply desire to throw out these few suggestions regarding the disadvantages of vaginal hysterectomy, and repeat that personally I am working in this route. No doubt in certain cases the advantages are all on the side of the vaginal route in simple, uncomplicated cases where we can get at the uterus through a roomy pelvis and vagina, but the Trendelenburg posture has changed the attitude of the operators of this country, at least, very largely in favor of the abdominal route, certainly in a very large percentage.

RETRO-DISPLACEMENTS: VENTRO-FIXATION.

J. H. McCLELLAND, M.D., PITTSBURG.

THE literature upon this form of displacement is almost as extensive as the malady itself, which is saying a great deal. It is not the purpose of this paper to take up the subject *in extenso.* Any thoroughly up-to-date work on gynæcology (and that of our own J. C. Wood is second to none) will give a sufficiently full exposition of this prevalent lesion. Not only would I refer you to the admirable treatise of Professor Wood, which is a pleasure to peruse, but I would suggest a careful examination of the paper presented to the American Institute of Homœopathy at its last meeting by our able gynæcologist, Dr. O. S. Runnels, of Indianapolis. This paper is a classic, and should be read by every one who wishes to have a clear idea of the principles and practice of this branch of gynæcology. Not that I agree with all of the suggestions in that

paper, particularly those having reference to the delaying development of the uterus in growing girls. To my mind its physiology is bad, while its pathology is worse. This paper you will find reprinted in the September *Medical Century*, and also in the *Journal of Obstetrics*.

The matter I have in mind at this time refers to that class of cases wherein any amount of internal treatment, or local treatment, such as applications, tampons and supports of various kinds, will have no apparent beneficial effect—in fact, where many of these measures will not be tolerated at all. This narrows us down to a very serious and special lot, as we might say.

The uterus is nearly always congested and enlarged. It is in many instances adherent, and the case is very often complicated by the presence of a prolapsed ovary, and this presence in the Douglas cul-de-sac is made manifest by reflexes and local pains of a most distressing character.

It will not require many words to convince the skeptic, if such there be, that this form of displacement, attended by infinite suffering and discouragement, is practically beyond remedy, save by a surgical operation. The effective measures that have been suggested for the permanent cure of this class of displacements are not many, and will be but briefly mentioned. Most prominent among these is the method suggested by Wylie and Baer of doubling the uterine ligaments upon themselves, by which they are shortened and made more tense; that of Alexander, in which the round ligaments are drawn out of the inguinal canal and shortened for the same purpose, namely, of drawing the uterus forward; the operations per vaginam, by which fixation is secured or the uterus is doubled forward by ligature; and, lastly, what is known as ventro-fixation or hysterorrhaphy. This, of course, leaves out the all-too-radical measure of uterine ablation.

Of the above measures, it is becoming evident that the operation of Alexander and that of hysteropexy have alone survived. As the facts continue to come home, it will further appear that the operation of Alexander will be less and less frequently performed, and that of ventro-fixation will almost stand alone for

the permanent relief of retro-displacements of the character we are considering.

A rather careful study of not a few cases leads me to the belief that the very painful conditions which we find are for the most part due to a more or less complete prolapse of the ovaries. The pressure and rough usage to which the ovary is subjected in its malposition cannot fail to produce many and great disturbances of body and mind. It has been said by competent authority that an ovary that has been prolapsed for any considerable length of time seldom escapes irreparable injury, ending in hopeless degeneration.

Taking for granted, then, that we have a case which has resisted all milder measures, or would resist them if tried, we must proceed to the only rational method left to us, if we are to afford such relief as our art enables us to offer, namely, a ventro-fixation. Although this is by no means a complicated operation, it yet affords some scope for the careful, discriminating surgeon.

The important points to be considered are: The selection of the best location for the introduction of the sutures in the uterus and the abdominal parietes as well; the suture material that will secure the best results; and, finally, the manner of engaging the abdominal wall and bringing it into close and permanent contact with the uterus.

My method of doing the operation is about as follows: The patient is in the Trendelenberg posture. A small opening is made through the abdominal wall, usually two inches long, through which two fingers are introduced. The ovaries are examined, and one or both removed if necessary. Adhesions are now broken up and the uterus is brought well into the abdominal opening. Here it is retained until the sutures are introduced. I usually select the anterior aspect of the uterus well up to the top of the fundus, for the planting of the sutures.

This point is selected in the belief that in case of pregnancy it would create less embarrassment to the developing uterus than to have the sutures in the posterior wall, as recommended by some authors. It is true the posterior suturing might secure a more desirable position in the pelvis for the time being; but

if pregnancy should ensue, the difficulties would be greater. The point selected in the abdominal line for the passage of the sutures is well off the bladder, but not so high as to drag the uterus too heavily. It has been well said that very slight traction only is necessary to keep the uterus in its anteverted position, the weight of the intestines, etc., having much to do with maintaining the normal position. This must be kept in mind. I formerly included the whole thickness of the abdominal wall in the sutures. Later, I modified this so that only the subcutaneous tissues were taken in, burying the stitches. Of late—say the last year or two—I have taken pains to limit the suturing to the peritonæum alone. I am satisfied that this possesses many advantages. The peritoneal lining of the abdomen is movable and allows a certain amount of motion to the uterus to which it is attached, and which must be of the greatest advantage. The suture material generally employed is silk. Catgut, even if chromicised, has but a brief life, while the silkworm-gut is liable, in my experience, to cause irritation by its wiry, unyielding nature. Silk lasts the longest, with the least unpleasant after-effects. Two sutures are usually sufficient. The wound is then closed with catgut and silkworm, as in any cœliotomy. During the last year I find the record of thirteen cases in my hospital practice, and the results are invariably good.

DISCUSSION.

Dr. D. C. Kline: This is a question that I have followed quite seriously, and more particularly with reference to a patient under my care. I insisted upon ventro-fixation of the uterus, but the patient and husband positively declined. I sought the council of my friend Dr. Smedley, who advised it. Still they would not consent; in fact, they would not consent to anything in the way of opening the abdomen. The patient suffered and was in a deplorable condition. Finding they would not have it done, I advised the next measure—curettement and repair of a slight laceration of the perinæum, stitching of the walls. This has given her marked relief, but still far from curing her, and I believe that the case will finally be one of ventro-fixation.

Dr. I. G. Smedley: I do not know of a subject that requires more careful consideration before the doctor proceeds to operative measures than this one of retro-displacements of the uterus. Some authors seem to think that they do not very often meet with a retro-displacement of the uterus without symptoms, yet, on the other hand, we have very triflingly displaced uteri that give marked symptoms. Now, when we have a retro-displaced uterus, what shall we do? My method is, if the uterus is at all displaced, to apply a pessary, and if the uterus will go back thoroughly and easily in place, and stay there during the application, the pessary will give marked relief, sometimes cure; we have a class of cases in which we can replace the uterus.

Dr. Kline mentioned an adherent uterus. In my experience an adherent uterus is extremely rare. The adhesions are in the tubes and ovaries and in an inflammatory condition of the broad ligament. When by medication, pessaries, etc., these uteri cannot be kept in place, and we have a constant train of symptoms evolved as a result of displacements, then I believe that the only surgical treatment is ventro-fixation, as the paper suggests. From the Alexander operation I have had no benefit, and I doubt very much whether it is a scientific operation; but we have not yet had sufficient experience in ventro-fixation to warrant us in doing the operation without due consideration. We have not had sufficient experience in the after-results; I mean by the after-results as to impregnations. I do not know of an operation from which I can guarantee more positive results temporarily than ventro-fixation. The relief comes promptly, but just what the effect is going to be in future impregnations we are not positive. In some cases deliveries are normal in every respect; in others the labor is hard, difficult and tedious, there being an inability of the fœtus to engage on account of the pocketing of the uterus.

I agree with the technique of Dr. McClelland's paper, in his method of fixation of the uterus anteriorly to the median line. My method is, if the tubes and ovaries are so diseased as to require removal, and there is a retro-displacement, I fix the fundus posterior to the median line; if one ovary is healthy, or both, and left in, I fix it anterior to the median line, so that the

uterus can develop posteriorly without danger of this pocketing and cause difficulty in future labor. I believe if this is done we will have less trouble. I agree with the author in his method of fixation, and I believe in the using of silk, fixing it to the perinæum alone, and not to the abdominal wall. Care should be taken not to puncture the mucous membrane of the uterus, only the peritoneal covering and the muscular wall of the uterus. If, then, the technique is perfect, the operation is not a serious one.

INFLAMMATION OF THE CERVICAL MUCOUS MEMBRANE AND ITS TREATMENT.

JAMES H. THOMPSON, M.D., PITTSBURG.

The mucous membrane of the cervical canal may be the seat of acute or chronic inflammation. Acute inflammation usually occurs as part of a general acute process, affecting the whole of the endometrium, and is commonly the result of gonorrhœal or septic infection.

Chronic inflammation of the mucous membrane of the cervical canal (also known as endocervicitis, cervical catarrh, or cervical endometritis) is an exceedingly common affection.

Chronic cervical endometritis and granular and cystic degeneration of the cervix represent, in reality, but different stages of one and the same disease. The general symptoms are practically the same in all, and they can be differentiated the one from the other only by physical examination.

By the term "chronic endometritis" is meant an inflammation, chronic in character, of the cervical mucous membrane, which extends from the os externum to the os internum. It is the most frequent of all gynæcological diseases that the surgeon meets with.

Anatomy of the Cervix.—All the lower spindle-shaped portion of the uterus is termed the cervix or neck. The lower extremity of the cervix projects freely into the vagina and forms

the portio vaginalis. It possesses a transverse aperture, measuring from half a line to two lines in width, termed the external orifice, or sometimes the os tincæ, from a fancy of the anatomists. The external orifice is bounded by two thick lips, of which the anterior is absolutely longer than the posterior.

At the lower angle of the cavity of the uterus is situated the os internum, a circular orifice large enough to admit a uterine sound, which forms the internal anatomical limit between the body and the cervix. The canal of the cervix has a fusiform shape, and is included between the internal and external orifice already described.

Its inner surface is characterized by two longitudinal ridges occupying the anterior and posterior walls, from which branch processes extend obliquely upward, giving rise to an appearance which justifies the title *arbor vitæ uterina.*

The cervical walls are composed mainly of connective tissue, the muscular structures derived chiefly from the lamella of the lower segment, from the inner layer of the uterus, and from the fibers which accompany the distribution of the vessels. At the vaginal attachment of the cervix there is a well-developed layer of transverse muscular fibers. Circular vessels, imbedded in a loose-meshed connective tissue, containing wide lymphatic spaces, surround the cervix at the same point. Thus a ridge is formed, which is greatly augmented in size during pregnancy.

The mucous membrane of the cervix is of a yellow-red color, of a firm consistency, and possesses the pinniform ridges already described. It is therefore readily distinguished, both by the eye and the touch, from the red velvety structure of the mucous membrane lining the body. Simple gland-tubes and glands with multiple *culs-de-sac* are found upon the crests and sides of the ridges, and upon those portions of the cervical canal in which ridges do not exist. The glands are genetically considered simple inversions of the mucous membrane, and are lined by ciliated epithelium. When the neck of one of these glands becomes obstructed, the secretion accumulates, and forms the straw-colored vesicles which have been termed the ovula of Naboth.

The cervical mucous membrane affords thus an extensive secretory surface, furnishing an alkaline mucus, which possesses important physiological functions in connection with concepception, pregnancy and labor. With regard to the cervix uteri, we have physiological as well as anatomical reasons for admitting a certain kind of erectility; to be sure a tunica albuginea is wanting. It is, therefore, not an ideal erectile organ.

Catarrh, or Inflammation of the Cervical Canal.—Unless caused by gonorrhœa, it is nearly always secondary to some local or general condition. The most usual cause of the disease is laceration of the cervix, which causes inflammation of the mucous membrane by direct injury and exposure. The various flexions and displacements of the uterus are often accompanied by cervical catarrh, which is brought about by the chronic congestion interfering with the circulation in the body and cervix. Too frequent douching with cold water, to prevent conception, is said to result in chronic inflammation of the cervical mucous membrane.

Imperfect involution after labor, miscarriage, or disordered menstruation, may cause cervical catarrh.

The scrofulous and tubercular diatheses seem undoubtedly to predispose a woman to chronic inflammation of the mucous membrane of the cervix, as of other mucous membranes of the body. Cervical catarrh often appears in such women without any local lesion to account for it. The severity of the local trouble depends upon the general condition, diminishing when the general health improves. Excessive coitus, intra-uterine stem pessaries, chancre, tuberculosis, and polypi of the cervical canal produce it. Gonorrhœa seems in most cases to produce the most obstinate form of chronic inflammation.

In fact, any cause that tends to keep up a congestion of the uterus and pelvic organs is liable in time to induce cervical catarrh, especially in one predisposed to inflammation of the mucous membrane.

Anatomically it is incorrect to speak of metritis of the body as distinct from metritis of the cervix, for these two portions of the uterus are never completely independent; most frequently

the lesions are synchronous, and undergo a parallel evolution. However, there is often a more decided localization of the disease in one or the other of these different parts, and as the cervix is the more exposed to traumatism, cervical metritis predominates. If the mucous membrane of the cervix is thoroughly diseased, the process is carried step by step into the fibrous and muscular portions, and thus a veritable parenchymatous metritis occurs with every inflammation of the cervix, if of long duration. Cornil expressly describes a parenchymatous metritis which may be partial. For example, the lesions are at times restricted to the cervix in the ectropion of the part, caused both by thickening of the mucous membrane turned outward into the vagina and by thickening of the connective tissue beneath the mucous membrane and between the muscular fibers.

The neck of the uterus may present special and very diseased lesions in metritis, there may be lacerations, ectropion, hypertrophy, congestion, varix, granulations, folliculitis, erosions, ulceration and cysts. When this part of the uterus is accessible to the view, the microscopic description should enter into the clinical demonstration; but it is necessary, also, to make the exact nature of the disease clear by the resources of histology.

The pathological changes that take place in the mucous membrane resemble those found in a similar process in other parts of the body. There is a very marked congestion and hypersecretion of the glands of the cervical canal, so that the most prominent symptom of cervical catarrh, a profuse cervical leucorrhœa, is produced. This discharge resembles the normal secretion of the cervical glands. In its physical properties it is characteristic. It is thick, tenacious mucus, and differs decidedly from the thin muco-serous discharge from the vagina, or from the body of the uterus. The discharge is often opaque; it is rarely purulent, and is very rarely streaked with blood.

The mucous membrane of the cervical canal becomes swollen, and may project or prolapse beyond the limit of the external os, so that the external os has around it a ring of red congested mucous membrane. Later, the secretion becomes exceedingly acrid, disintegrating the epithelial layers of mucous membrane, which leaves the underlying surface exposed. This is

known as abrasion or erosion, while, in the strictest sense of the term, it is a form of ulceration. If, instead, they progress, the mucous membrane proper becomes implicated, and the papillæ undergo proliferative changes and project in the form of granules through the abraded tissue. This constitutes granular degeneration.

The chief and most conspicuous symptom of cervical catarrh is the leucorrhœa—the discharge from the cervical glands. As has already been said, in its physical properties it is characteristic. It is a thick, opaque, tenacious mucus. The quantity is often so great that the clothes of the woman are soiled, and she is obliged to wear a napkin. The symptomatology depends more upon the type of constitution met with in a given case than upon the extent of the disease.

Some temperaments are much more profoundly affected than others by any lesion; and, as regards those of the uterus, this is pre-eminently so. There may be present slight backache, and a feeling of vague discomfort or pain in the pelvis, as a result of the inflammation of the cervix. It is difficult, however, to separate symptoms referable distinctly to the cervical inflammation from those due to the primary trouble to which the cervical inflammation is also to be attributed. The only one most common and distinct symptom of cervical inflammation is the leucorrhœa. In time, other symptoms of a more general character may develop. The stomach is frequently implicated in a reflex way, so that the nutrition becomes impaired and nervous symptoms develop. The pain in the back is almost always aggravated at the menstrual period. Melancholia, occipital and vertical headaches, neuralgia in various parts of the body and hysterical manifestations may follow in the train of malnutrition. Disordered menstruation, pain upon sexual intercourse, and other symptoms, such as constipation, disordered micturition, etc., are not infrequent.

Digital examination reveals an altered condition of the cervix. The external os is usually enlarged, often admitting the tip of the examining finger, even in those who have not borne children, had a miscarriage, or a laceration of the cervix.

In a few cases the eversion in virgins is so great as to cause

one strongly to suspect, for the time, the chastity of the patient. The only absolute test is time and proper treatment. In virgins the parts will ultimately regain their normal appearance, whereas, if laceration exists, the rents are only made more prominent by curing the inflammation and hyperplasia.

Speculum examination shows a congested vaginal cervix and a patulous external os, around which is a red erosion already described. Escaping from the external os is seen the thick cervical mucus, which is often so tenacious that it may be lifted from the cervical canal with forceps. The diagnosis of cervical catarrh is usually very easily made from a consideration of the signs described. The important thing in every case is to determine the cause of the inflammation, in order that the proper treatment may be directed to it.

Chronic cervical endometritis can be differentiated from vaginitis only by a specular examination. It is a frequent complication of chronic vaginitis. There is some danger of confounding granular and cystic degeneration, particularly if hyperplasia and lacerations exist with epithelioma. The induration in epithelioma is much more marked; there is a particular hardness about the os; hæmorrhage is more easily excited, and the mucous membrane is attached to the subjacent structures. If uncertainty exists, remove a piece for microscopic examination. The ulceration may be due to syphilis. Syphilitic ulceration of the cervix is not a common affection; it can be recognized by its yellow opaque color, by its depressed surface and constitutional symptoms. Proper treatment rapidly reduces simple hyperplasia with degeneration, which is not the case if the disease be malignant. When all forms of the different diseases are left unmolested, it may continue indefinitely, becoming worse and worse as time goes on. With treatment, a cure can be accomplished in the end.

The prophylaxis of cervical inflammation made a great step forward when antisepsis was first followed in obstetrics. It is to a more or less localized and attenuated puerperal infection that a few of the cases of cervical catarrh are due. In my opinion, the discussion whether expectance accomplishes more than active interference is all wrong. Budin has raised his

voice too loudly against what I call the exaggerated fear of accident from the expectant plan. In every case of cervical catarrh, a thorough examination to determine the local cause of the disorder must be made. As it has been said, cervical catarrh is always secondary to some local or general condition, except in the case of direct gonorrhœal infection. The gonorrhœal cases must be determined by the history of the disease and a microscopic examination of the secretion, and by the distinct signs of gonorrhœal infection. If such a cause is discovered, the treatment should be applied to it, and the inflammation of the mucous membrane may be disregarded with confidence that it will disappear when the exciting cause is removed.

Many cases are treated by local applications, the whole attention of the physician being wrongly directed to the secondary conditions, while the exciting lesion, such as laceration of the cervix, subinvolution, or a flexion or version, is neglected. Such treatment, of course, results in but temporary benefit.

There are many other cases which are local manifestations of a general state of depressed or poor health, or of a distinct dyscrasia like tuberculosis, syphilis or scrofula. Local treatment in such cases, to the neglect of the general health, is wrong.

At times, by touching even the canal of the cervix with the sound in the gentlest manner possible, a most intense pain shoots at once to the left hip and groin. The pain in the hip furnishes merely an example of Sir Benjamin Brodie's hysterical joint.

The treatment may be considered under two heads—the general and the local treatment. The tonic or constitutional treatment is required in most cases of protracted cervical catarrh. Careful attention should always be paid to the regularity of the bowels, in order to prevent pelvic congestion, which may result from constipation. Any distinct pathological condition, like tuberculosis or syphilis, should, of course, receive the appropriate treatment. As to the local treatment, it may be directed to the vaginal aspect of the cervix or directly to the cervical canal.

Various solutions are used for application to the cervical

canal. The vaginal aspect of the treatment consists of the administration of hot vaginal douches, the application of official tincture of iodine to the vaginal vault, and a free use of glycerin tampons.

Among other vaginal washes for cervical secretions, I must not omit to mention dilute hydrochloric acid. Where there is no vaginal irritation or epithelial abrasion, this may be used with advantage according to the following formula:

℞.

Dilute hydrochloric acid, ...	℥i.
Distilled water, ...	℥vii.

A tablespoonful, in a pint of tepid water, to be thrown into the vagina night and morning. But vaginal injections are only adjuvants of treatment. We cannot depend upon them wholly for curative results. They are valuable in their way, and not to be ignored. I know of nothing more difficult of cure than an old cervical leucorrhœa; and, notwithstanding the vaunted success of this or that remedy, I fear that the young practitioner will often be disappointed in their application. In case the cervical catarrh persists after the cure of the local or general lesion, we may be obliged to make application directly to the membrane of the cervical canal. Violent caustics must be avoided. In dealing with the granular and cystic degeneration, it is often necessary to remove the diseased tissue with a sharp curette. Previous to the use of the curette the simple dilatation has been resorted to and proved quite sufficient. In very extensive degeneration it may be necessary to amputate a portion of the cervix.

Following the local treatment, I find galvanism of the greatest importance, shortening the time of treatment greatly, compared to the time required with local treatment alone. The glands of the cervical canal may become cystic. These cysts may form a semi-detached mass on the surface of the parts as mucous polypi. They are small, of a red color, semi-transparent or purplish, hanging by pedicles more or less free in the vaginal cavity, resembling mucous polypi of the nose, only far more vascular. They can be removed by an operation. The operation is always a success when properly performed.

The application directly to the mucous membrane of the cervical canal should be made as follows, any time in the menstrual interval being appropriate. The cervix should be exposed through the Sims or the bivalve speculum. The cervical mucus should be removed, in order to permit the direct application of the desired solution to the mucous membrane. The applicator, armed with cotton saturated with the solution, should be introduced in the cervical canal and applied to all portions of the mucous membrane. In place of the applicator we may use the glass pipette or instillation tube, or, better yet, the Braun intra-uterine syringe. The syringe, charged with a few drops of the desired solution, should be introduced as far as the internal os, and the solution should be expressed as the syringe is slowly withdrawn. In most cases the external os is sufficiently large and the canal sufficiently patulous to permit the use of the applicator or syringe already described, and not requiring the use of the dilator before making the application.

Various solutions are used for applications to the cervical canal. My favorite solution is as follows:

℞.	Alumnol., ...	grs. 60.
	Alcohol,	
	Iodine, ...	aa. ℥ij.

This I use by means of the Braun syringe as described, chiefly beneficial in cases of gonorrhœal origin. Other solutions have proven to be beneficial, such as chloride of zinc, one or two grains to the ounce. Pure carbolic acid is followed sometimes by good results; tannic acid, nitrate of silver or bichloride of mercury is often used with varied results. Iodine and carbolic acid, two parts of the tincture of iodine to one part of carbolic acid, is one of the favorite solutions in the hands of many surgeons.

To sum up the consensus of modern opinion upon this disease, it may be said that the cardinal points in treatment are: to keep the enunctories active, so as to expedite the elimination of toxins from the system and limit their absorption; to support the circulation in order to prevent local engorgements and congestions, to heal the lesions in the cervical canal; to

tranquilize the nervous system and maintain its tone as far as possible, and to nourish and sustain the patient. Additional points of more than ordinary importance are the enforcement of rest as nearly absolute as possible, and the meeting of complications by special treatment as indications appear. In conclusion, good nursing is of the utmost importance, and perhaps in no other disease is this more true.

Not only in medicine and surgery, but in all walks of life, humanity profits more in accumulated knowledge by its errors than by its successes; and perhaps, in consideration of any one or all of the special lines of treatment here mentioned, more might be learned by a close study of the percentage of failures, which must undoubtedly indicate the weakest point of the so-called specific, than by consideration of a long list of recoveries, which, after all, might have recovered under other treatment.

WOMEN AS LIFE INSURANCE RISKS.

R. E. TOMLIN, M.D., PHILADELPHIA.

This subject is by far too extensive to admit of the full consideration its importance merits within the circumscribed limits which the practical nature of this Section requires, hence but little more than suggestions will be given at this time; while this fact may be patent to all, it is hoped that the thoughts expressed may be interesting, if not instructive.

Within a comparatively recent period there has been a sort of unwritten law in the medical department of insurance companies against the acceptance of women, on the theory that they were not profitable risks. This is due in part to the difficulty in ascertaining their peculiar physical history. As women are now becoming quite a factor in the problem of wage-earning, engaging, as they are doing, in so many of the pursuits formerly occupied exclusively by men, thus not only supporting themselves, but quite frequently having others depending upon them for the necessities of life, it is both natural

and proper that they should seek a safe method to not only provide for the exigencies and contingencies of life, but to procure a competency when the working-time of life is over. In this enlightened age intelligent men turn to life insurance to aid them in the accomplishment of this object. It is the only known way for a man to capitalize future effort and make it possible for dependents to immediately realize upon unfinished labor in the event of his death. If it is true that every life which earns money has a financial value, and the failure of which life represents so much capital lost, and the replacement of which can be most effectually secured by life insurance, why should women be denied the pecuniary advantages that life insurance affords. That there is an ever increasing class of women desiring and entitled to the benefits of life insurance must now be admitted. There is no reason why woman should expect full financial advantages without permitting as full and complete examination as is consistent. If necessary, a woman should be stripped as to her chest, and even the abdomen, so that heart and lungs, as well as the abdominal and pelvic organs, may be examined with precision, and an opinion given that is born of knowledge. Although the majority of applications come from women of the middle and hard-working classes of society, it is difficult to have them realize the necessity for a thorough physical examination. It is logical to present prominently those factors deemed most important, so that reference will be made briefly to such as will give a clear conception of our subject. We have already expressed ourselves upon the problem of physical examination.

Marriage.

It is a well-known fact that married women are better risks than single ones. Marriage is conducive to long life, since the majority of those in all countries and climates who have attained to the longest life were or had been married.

A man first becomes a man, and a woman a woman, in marriage. Only when united by that mysterious rite does each find nature satisfied, and all the faculties and functions meetly exercised. By such union those powers which are directed without the individual, those strong sentiments which are the

reverse of the selfish and introverted positions of our constitution are called into action.

Single men or single woman do not average as many years as the married, nor are they as free from disease.

The chance or expectation of life is, therefore, in favor of the married. Women, on an average, outlive men. Widows live longer than widowers. As a class, women are less exposed, and their habits and general manner of life are of a higher grade.

Pregnancy and the Lying-in Period.

Most insurance companies postpone the application of pregnant women until a sufficient time has elapsed after labor to assure her safe and complete recovery. Some companies do not accept women at all during the child-bearing period, claiming that they are specially hazardous risks. One writer says it is an ascertained fact that female risks have proven unprofitable, as parturition and its attending complications largely increase the mortality previous to the age of fifty.

If all pregnant women had attending them at childbirth obstetricians and nurses who were "surgically clean," the hazard would be greatly reduced. Unfortunately in not a few cases neither physician, nurse nor patient observe even "social cleanliness," the result being septic infection, with many other pathological conditions incident to the lying-in period. Septic infection during this period is due to the infection of the uterus with the streptococcus pyogenes which has been introduced by the finger or instruments during or immediately after labor, and, of course, is preventable.

Gynæcology is a child of the present generation. Until a comparatively brief period it was the mere appendage of obstetrics. To-day one of the most conspicuous factors in the "hazard" of the child-bearing woman is the failure of obstetricians and nurses to use the modern methods; thus the office of the gynæcologist is filled with many of these cases, and many women who would otherwise be passed as fair risks are either considered as inferior risks and postponed, or refused outright.

Climacteric.

In referring to the "Climacteric," Goodell says that the old-time belief that the climacteric is an entity, and that as such it is responsible for most of the ills of matronhood, is not true, while it does seem to disturb the vaso-motor system, and through it cause many perturbations, emotional explosions, many nervous symptoms, and even to be an important factor in the causation of insanity. But, contrary to the prevalent lay belief, true uterine diseases cannot be traced to the climacteric as a cause in itself, but to cancerous and tumorous growths common to the locality, age and sex. The menopause takes place in most women about forty-five, and the following five years are attended with more or less discomfort and looked upon as a critical period; the frequency of malignant disease being more common in women than in men.

Most companies prefer to accept women about five years after the menopause, where there is no evidence of disease.

Hazard.

Up to age 48 the female risk is below the male. After age 48 the female risk is better than the male. The greatest danger in married females is connected with the birth of the first child. Females are said to conceal important facts more frequently than men. While this may be true in a measure, I do not believe they do it with the evident intention of deceiving the examiner, but rather from a lack of fully appreciating the importance and necessity of a complete physical exploration. It is practically impossible in some cases. Women who do not become pregnant at all for five years after marriage may be considered fair risks.

All actuaries and medical boards agree that the moral hazard is one of the greatest factors in the selection, and as such should be given the attention its importance merits.

The so-called "speculative feature," apparently frequent among certain classes of women who apply for life insurance, is probably not as bad as it would appear, and in reality it does not compare with the hazard induced by alcoholic and malt liquors which men imbibe so freely; the excitement and

worry incident to business and professional life, so often attended by its unnaturally heightened mental and physical tension, followed as it necessarily must be by reactions as enervating as they are frequent, impelling men to seek relief in stimulants to brace them up. They not only seek to augment their overtaxed energies in that which eventually "biteth like a serpent and stingeth like an adder," but indulge also in food and society of such a character that it is only a question of time when Father Time will speedily gather them to himself. Men claim that such is needful to bolster up their courage to meet the foe, which as a rule is greatly overestimated. Contrast the above with the more quiet and regular life of the average woman who uses comparatively little of alcoholics, narcotics, etc.

Nervous System.

Physiologists tell us that the nervous system is the foundation for all the integrity of all the tissues; the mainspring of all physiologic processes, all physical and mental activities. Any defect, then, in the nervous system weakens some organ, or set of organs, and abbreviates life's expectancy.

The complex nature, then, of woman's nervous and mental makeup naturally suggests the wisdom of possessing a nicely balanced and closely discriminating judgment when reporting upon this part of her examination.

Heredity.

The factor of heredity, embodying, as it does, such important features as cancer, tuberculosis, syphilis, etc., is too well-known to be more than mentioned here, as the writer has no desire to be prolixious in the presentation of this subject, and will cite a few prominent facts in reference to the transmission of cancer.

1. Cancer is a specific disease, standing next to consumption in frequency of transmission.

2. Cancer and tubercle may coexist, but cancer usually excludes tubercle.

3. The development of cancer usually occurs between 35 and 55 years, when the vital forces begin to wane.

4. Females are more liable than males, the parts most frequently affected being the generative organs and the breasts.

Surgeons generally believe the influence of heredity upon the production of cancer to be established.

Prolonged irritation is the chief exciting cause for its development.

The writer claims but little originality in the production of this paper, and hereby acknowledges the courtesy extended to him by Dr. George W. Wells, editor and proprietor of *The Medical Examiner*, from which excellent journal many of the thoughts were gleaned.

THE VALUE OF THERAPEUTICS IN GYNÆCOLOGY.

JULIA GOULD WAYLAN, M.D.

I WOULD like it to be thoroughly understood at the outset of this paper that I am not an opponent of mechanical and operative measures in the treatment of gynæcological cases; but my experience in two cases coming under my care during the past year leads me to see the necessity of conservatism in both mechanical and operative interference, and the proven value of our remedies when directed toward these difficulties.

In both of the cases I shall refer to it was my purpose to interfere, but, as will be noted, my plans were foiled by necessary delay and remedies.

I presume others will be forced to think the restoration of these patients, as reported, about as incredible as I myself have thought others of whom I have heard and read.

If I had not designed so differently for these cases I should not feel impelled to report them.

Naturally I am astonished at results, and cannot help seeing that our successes in gynæcological cases might be greater were we all willing and anxious to work more diligently with our remedies.

Case I. was that of a young girl of 15 sent by another physician to be examined for a supposed uterine misplacement. I hesitated, naturally, because of the youth of my patient, and begged permission to make an effort to help her with remedies. This was denied, and I was informed that the physician sending the patient had used remedies faithfully and deemed a local examination the only expedient to give him light upon the case. The mother refusing him this opportunity, he referred the case to me for examination.

I found it impossible to make a satisfactory examination except under an anæsthetic, and appointed a time for this.

When the hour had come and I had arrived at the home with my anæsthetist, the parents decided they could not endure the thought of their child undergoing this severe ordeal, but expressed their willingness to again give the remedies a trial.

The patient complained of a marked sensitiveness in the right ovarian region and a dragging sensation, as though everything were falling from her.

I insisted upon her leaving school, where she ran up and down long flights of stairs frequently. I put her to bed for a week, advised her to assume the genu-pectoral position frequently during each day, and a hot sitz bath three or four times a week before retiring.

Belladonna seemed without doubt her remedy; but I failed to secure the result desired with either the 3x or 30 potency, so in desperation I used the 200, which relieved the patient most decidedly. That, with rhus tox. 30, were her only remedies. Now, after a lapse of nine months, the patient still remains free from the symptoms named above.

This is the recital of an everyday case; nothing remarkable in symptoms, but an examination is forced rather than denied, and remedies are not insisted upon to the uttermost; in other words, the failure to attain the result desired is attributed to the case, and not to the lack of insight into the resources of an abundant materia medica.

Case II.—A colored girl, age 18, unmarried, came under my care during my term of service at the Women's Homœopathic Hospital, January of the present year.

The patient came into the hospital December 30, 1897, with the following history: Menses generally regular and profuse. During May and June, however, the menses failed to appear. In July the uterus was forced outside of the vagina by heavy lifting. The patient had not worked for two weeks prior to her admission to the hospital, her principal symptoms being pain in the right ovarian region and dragging-down feeling, as though the uterus were issuing from the vagina, which totally unfitted her for work.

Examination evidenced a very much elongated cervix and a mass in the patient's right side.

A consultation was held January 6, 1898. Of the physicians present, all save one diagnosed the tumor as fibroid of the uterus, and the majority decided in favor of an abdominal hysterectomy.

The dissenting physician diagnosed the case as one of pelvic hæmatocele.

Here were six or seven physicians solid for operation, and all but one united on diagnosis. Personally I sided heartily with the majority, and I pushed the case for operation. Fortunately for the patient, and, as I thought then, unfortunately for the time of operation, her menses were found to be due on the 12th, hence delay was considered wise. The menses did not appear until the 20th. The operation was set for the 30th.

After a careful examination by one of the consultants, the resident physician and myself, a day or two prior to the date set for the operation, no trace of the mass or tumor could be discerned. The patient was feeling well, and was discharged from the hospital February 10, 1898, cured. Rhus tox. 30 was given the patient during her days of waiting for examination, consultation and operation, and, with the exception of bell. 30, given during her menses, this was her only remedy.

Undoubtedly the dissenting physician was correct as to the diagnosis, and the hæmatocele was absorbed.

Had the delay not seemed necessary the patient would have been operated on, and we still believe the tumor would have been found (though not a fibroid), and every one would have felt that the operation was necessary and justified, and that the

patient would have been fortunate to have escaped with the loss of only part of her anatomy.

I am convinced that the patient referred to owes her marvelous escape to the remedy and delay.

With these facts and results thrust upon my attention within a month of each other, I feel compelled to make a further plea for greater conservatism in gynæcological work, and call attention to belladonna and rhus tox. as most valuable remedies when at all indicated.

DISCUSSION.

Dr. Augustus Korndœrfer, Sr.: We have a great array of useful remedies that ought to be worked up by our gynæcologists. When we think of the immense field of action of cimicifuga, and other remedies of that type, in female affections, we can well see the importance of their thorough study. When we consider that relaxed condition of the whole venous system under cimicifuga, the relaxed condition of the abdominal circulation, the pot-bellied condition, the feeling of dragging in the uterus and pelvis, a sensation as if the uterus would force out, crossing the legs in order to remove that sensation, how often have we prescribed the homœopathic remedy and given relief? We must remember that the uterus is a movable organ,—one that can assume different positions within the same hour, and assume these positions with comparative ease, without any sensation on the part of the woman. This being the case, we must remember that the remedies acting on those parts will stay that position in the relatively normal limit of mobility. There is one I have mentioned as having a special relationship to a relaxed venous system and anteflexion in a number of cases with an extremely sensitive condition of the left ovary, where the patient is in constant distress, where the abdominal tissues are so sensitive that the patients can scarcely bear any clothing around them; they want to wear loose wrappers; they do not want bands around the waist because the abdomen is so sensitive, they cannot bear even an examination or the slightest touch—lachesis is the remedy. It is a common result that within twenty-four hours your patient will feel better, and in a week you will have effected

a cure. So I might go through with quite a number of remedies. It is just that kind of work of the specialist that I would like to hear from.

Dr. I. G. Smedley: This is a big field for us as homœopaths to cover, so many authors of papers say we use this, that or the other remedy in the treatment of their cases. Why mention the name of the remedy at all, except to say that we use medicine, unless the indication for those remedies are given? I wish that the specialists in gynæcology could get together, compare notes and work up the indication for remedies; I believe we could do more for our gynæcological work than by talking technique, etc. I remember, when I was doing my work in London at the hospital, how the doctors would give local treatment day after day, tell the patients that they were well, prescribe the same thing, each doctor having his own favorite formula for keeping the bowels moved, etc., and yet the patients would come back and say they were not well. I had some little experience before I went abroad in the treatment of these diseases by homœopathic medication, and our patients were relieved by homœopathic remedies. The symptoms for certain remedies stood out prominently, and I could not give them under the circumstances.

There are numbers of cases in which, for one reason or another, the patient will not submit to an operation, where I know that we can relieve by medical treatment, where there are marked displacements that cannot be reduced, inflammatory symptoms which are not severe enough to warrant an operation, and in them our medicine will give relief if prescribed homœopathically. I am at a loss frequently to know what remedies are indicated, and I was in hopes by this paper that we would get some positive symptoms, some clinical confirmation of symptoms, and the remedy to apply to benefit the patient. The author of the paper did not give a clear indication for this young girl, and I do not blame her for not making an examination, for I would hesitate to examine a patient so young, and when I do examine them I prefer examining them per rectum in making a diagnosis, instead of per vaginam. In the second place, a positive diagnosis was not made, and she did

not give a clear indication for her rhus or belladonna. Let us get together and do some work in the line of homœopathic remedies, especially work in our line.

Dr. Augustus Korndœrfer, Sr.: I wish to suggest, in order to have the members discuss this matter of therapeutics more thoroughly, that as each one will probably think "I do not know what remedy to talk about," I would suggest a few which have proved useful: nux vomica, conium, lycopodium, calcarea carb., sulphur, hydrastis, pulsatilla, sepia, viburnum, senega, lilium tigr., cimicifuga, helonias, kali carb.

REPORT OF THE SECTION OF MATERIA MEDICA.

Our Materia Medica, by Augustus Korndœrfer, Sr., M.D.
A Study of Silica, with Notes on Attenuation of Drugs, by Edward Cranch, M.D.
The Ammonium Salts, with Some Comparisons, by W. H. A. Fitz, M.D.
Some Thoughts on Terebene, by A. L. Kistler, M.D.
Notes on New Remedies, by Malcolm Macfarlan, M.D.
The Genius of Sepia, by C. S. Schwenk, M.D.

OUR MATERIA MEDICA—A FEW THOUGHTS UPON ITS PAST DEVELOPMENT AND ITS PRESENT STUDY.

AUGUSTUS KORNDŒRFER, SR., M.D., PHILADELPHIA.

SINCE the completion of Hahnemann's materia medica there has existed a constantly increasing difficulty in the development of a comprehensive and practical plan for the study of this most important branch in the education of the medical practitioner.

The indefatigable labors of the master enabled him to bequeath to the profession a legacy of inestimable value, *The Materia Medica Pura and the Chronic Diseases.*

Constant additions through new provings have so increased the volume of useful material that the mystery of our materia medica has become a difficult, if not an impossible, task.

When we consider the ten volumes, royal octavo, of material that finally was brought together, revised and edited by that faithful student of our materia medica, Dr. Timothy F. Allen; and the ten volumes of *Guiding Symptoms*, given us by that most learned, conscientious, and discriminating observer, Dr. Constantine Hering, as the crowning work of his twoscore years of earnest, painstaking research, we can form some idea of the stupendous labor involved in its proper study.

These magnificent monuments to Homœopathy were: the one necessarily but the recorded symptoms from the day-books

of a myriad of provers; the other, a critical collation of all accessible confirmations of the symptoms thus recorded.

Each work in its own way presented facts, and the confirmation of facts—most essential foundation for the development of any science; but they made no attempt at a philosophic study of the provings which were thus recorded.

During the early years of Homœopathy repertories of various degrees of utility were published, their authors, in each case, hoping to bring the vast array of recorded symptoms within easy reference for the use of the busy practitioner. These arbitrary classifications of symptoms were, however, but an imperfect makeshift, and were practically but an acknowledgment of the lack of philosophic method in the work of their authors. They were, at the best, but temporary and unsatisfactory devices.

Abridgments and so-called condensations were attempted. These, however, of necessity, left so much untold, and were so lamentably deficient in essentials that, save as primers for the use of beginners, they possessed but little real value. A host of such works, under fair-sounding titles, sought place and attention. Each claimed either a more scientific method or a more definitive style as an excuse for its existence. But few gave thought to the scientific study of our materia medica, and these few felt that the time had not yet arrived for the sifting of the wheat from the tares. While these wrought faithfully, the masses sought but ease.

Superficial knowledge suited the masses better. Abridgment, not improvement, was the coveted end. Short-cuts to knowledge were sought. Accuracy was willingly and wantonly sacrificed to ease. Thus was homœopathy oft sacrificed to eclecticism, science to a base empiricism, a noble and holy profession prostituted and degraded to a level far lower than a trade.

Such a course is most condemnably wrong. Medicine is a science; in its nature an exact science. Essentially, the methods and results of its practice are as exact as those of physics or mathematics. True, the accidents which surround it render such exact results difficult, to the minds of many impossible;

yet, when we consider the ready applicability of the methods employed in the development of other sciences, we are led to feel that exactitude may be attained within the limits of a nearer future than the masses are yet able to conceive.

A careful review of Hahnemann's work will show that the strictest and most logical methods were employed throughout.

In the development of his materia medica, observation of facts formed the foundation upon which all else was based. The very facts, however, were subjected to systematic crucial experiment ere they were accepted. Comparison of results was diligently and faithfully made. Classification of effects came in logical sequence, and in turn irresistibly led to the formation of a general proposition which, indeed, had become self-evident, namely, that drugs, as medicines, act in accordance with certain definite laws. Hahnemann was thus enabled to form a definite judgment upon the relation between certain demonstrable drug effects on the human body in health and the action of such given drugs in disease. This he clearly set forth in the *Organon*, in the sections treating upon the three methods of drug action. A critical comparison of drug effects upon diseased states, when applied in accordance with each of these methods, led Hahnemann into a knowledge of the curative relation between drugs and the dynamic forms of disease. Finally he was enabled to deduce the general law of the opposition of the similars, which he announced in the formula, "Similia Similibus Curentur."

Hahnemann faithfully sought both correction and confirmation through repeated provings of the drugs and by accurate experiments in practice until certainty became assured.

Every student of philosophic methods will recognize through the whole course of this developmental work the methods followed by the most advanced scientists of to-day.

We are the fortunate recipients of a rich and fruitful heritage, one which duty and pleasure alike should impel us to employ for the mental and physical betterment of mankind.

The material of this inheritance is indeed voluminous, and its mastery by unaided memory is impossible; nevertheless a critical survey of the entire field will demonstrate the possibil-

ity of a thorough working knowledge of our completed materia medica.

True, we cannot hope for such mastery through the mere mechanical abridgment of the printed matter of which it is composed, but we may safely assume that it can be accomplished through a comprehensive grouping of the prover's symptoms into definite and natural complexes.

In the pathogenesis of each well-proved remedy we shall find crystalized, as it were, in recognizable and within given limits, in invariable form, certain aggregations of symptomatic atoms that are as determinate in the therapeutic application of the drug as are the distinctive crystals, so beautifully portrayed by Wormly in his *Micro-Chemistry of Poisons*, determinate of the chemical identity of the substances delineated.

In pursuing an analytical and comparative study of the proved symptoms of any given drug, we are impressed with the fact that the symptoms of all true provings group themselves into these more or less definite and distinctive forms. Such groups in any given remedy, though corresponding to widely different diseased states, will nevertheless invariably manifest certain characteristic and typical similarities. An analysis of such varied symptom-groups will reveal what Hering was wont to term the "genius of the remedy." A knowledge of this "genius," this natural bent or trend of action, renders the therapeutic selection of any remedy both easy and sure.

Knowledge of this character becomes possible to the student of materia medica alone through an exhaustive analysis and comparison of all the symptoms in the pathogenesis of each proved drug.

It must be remembered that in all profound acting remedies multiple characteristic peculiarities will be demonstrable. These may differ widely in kind, yet all will be found in harmony with the genius of the remedy.

In no single proving and in no individual case of disease will all such characteristics be combined; just as in no case of disease will all its possible symptoms and signs be found complete. An intelligent study of these varied groups will always reveal the type of action underlying the systemic effects of the drug,

in addition to which the relation between the different groups of symptoms will also be made manifest. The entire chain of drug effects may thus be clearly perceived and made serviceable therapeutically.

When our knowledge of these natural combinations becomes fully developed, we no more shall have such incongruities of symptom building as now mars much of our literature. Too often do these resemble the absurdities in architecture so aptly portrayed by Ruskin in his *Poetry of Architecture* in the following words: "All unity of feeling is neglected; we see nothing but incongruous combinations; we have pinnacles without height, windows without light, columns with nothing to sustain and buttresses with nothing to support. We have parish paupers smoking their pipes and drinking their beer under gothic arches and sculptured niches, and quiet old English gentlemen reclining on crocodile stools and peeping out of the windows of Swiss chalets." This, if applied in spirit to many published reports of the therapeutic application of drugs, would by no means be an overdrawn simile. A greater love for and fealty to the methods followed by Hahnemann would make such criticism impossible.

To briefly recapitulate: A knowledge of the therapeutic sphere of action of any given drug requires; First, A correct record of its provings. Secondly, A careful study and analysis of such pathogenesis; to this end comparisons must be instituted between its various provings. Thirdly, The symptoms must then be classified and grouped, so as to reveal the specific peculiarities of the drug in its action upon the human body in health. By this means we will acquire a knowledge of the "genius" of the remedy.

Hahnemann, when referring to the selection of the curative agent, says: "§153. We ought to be particularly and almost exclusively attentive to the symptoms that are striking, singular, extraordinary, and peculiar (characteristic); *for to these latter must similar symptoms from among those produced by the drug, correspond*, in order to constitute it the remedy most suited to the cure."

Finally, comparative study of the curative results from each drug will enable us to accurately define its scope and limitations as a therapeutic agent.

A STUDY OF SILICA, WITH NOTES ON ATTENUATION OF DRUGS.

EDWARD CRANCH, M.D., ERIE.

SILICA, as a remedial agent, is one of the most useful helps that the true physician can employ, but it is blindly avoided by the old-school doctor, who styles himself "regular and unrestricted," yet "prefers charges" against any of his fellows found guilty of "practicing Homœopathy," using the "little pill" or the "tasteless glass."

Silica can show the world, if it will listen, what Homœopathy has done and is doing for science, both in excellence of remedies and in convenience of dose.

Let us review briefly some of the best-known and most generally used indications for silica. It will cause and cure felons, foot-sweats, headaches, melancholia, nervous prostration, vertigo, catarrhs of several organs, ulcers, glandular swellings, caries of teeth and bones, dyspepsia, constipation, dysuria, fistula, paresis, and some forms of skin disease. Not that it will cure every case of all these varied ailments, but it will do so when the constitutional symptoms mainly agree.

In the general symptoms calling for silica we may note despondency, anxiety, ready fatigue, with the peculiarity that the patient will keep up till the immediate work in hand is done, and then collapse utterly. There is great sensitiveness to taking cold, especially if any change be made in the clothing, such as leaving off the hat, changing shoes for slippers, etc. There is an intolerance of alcoholic stimulants, and easy disturbance from tea, coffee, and narcotics. There is great sensitiveness to all sorts of impressions, starting at slight noises, patient is very easily hurt by incautious handling, and pain is not well borne. There are frequent night-sweats, and very often a fully developed hectic condition. Chronic ailments from bad vaccinations are relieved. The head especially is relieved in all its ailments by hot applications.

A severe case of chronic pelvic cellulitis, in the writer's practice, was cured by silica alone, the patient having frequent very severe headaches, only relieved at all by resting the head on one poultice and covering it with another. The cellulitis was discharging into the vagina from two long, fistulous tracks, and was entirely cured. All the sores and bone-diseases of silica suppurate freely, showing great susceptibility to septic influences, and these sores are painful, and readily yield up whatever foreign substances in the shape of bullets, glass, wood, or cloth, that may be imprisoned.

A case of nervous prostration in an old lady who had had several physicians in vain was promptly relieved, and accompanying night-sweats stopped, by silica alone; but the symptoms came back the first time the medicine was withdrawn, while, since its repetition further, the patient appears to be cured.

A case of multiple paronychia (Morvan's disease) was also helped more by silica than by any other treatment, although it is not known now if it is entirely cured. Several cases of cracks or rhagades at the ends of the fingers, and many cases of whitlow or felon, have been promptly cured. Cases of dental fistulæ, and one case of anal fistule, have yielded to silica, without other aseptic treatment. Organic diseases of brain and nerves have been improved, and stiff joints restored to usefulness, and chronic neuralgias cured.

The foregoing is a very brief account of what silica will do in our hands. Now let us see how it is regarded by the old school. Out of a large number of text-books gone over, only three were found to mention it at all. These were the *National Dispensatory*, and Shoemaker's and Potter's works on *Materia Medica and Therapeutics*. These all allude, very briefly, to the antiseptic virtues of the solutions of the silicates of potassium and sodium, and speak of them as of possible, but very subordinate, use as washes in certain cases of cystitis, vaginitis and erysipelas. Pure silica is honored with only one mention, and that is where John V. Shoemaker, M.D., LL.D., says, on page 758 of the third edition of his *Materia Medica and Therapeutics*, "Friction with sand has been employed by Ellinger as a method of detaching the scales in psoriasis." According to

Cathell, in his *Book on the Physician Himself*, "regular, unrestricted" physicians always "eagerly, and fairly, and deliberately investigate and test all the alleged important discoveries." Why is it, then, that they have rejected the right use of silica, and brought up on sandpaper? "To what base uses we may return, Horatio!" and this in the close of the wonderful nineteenth century. Something very like it was recorded about five thousand years ago, when the patient patriarch Job applied the silicated edge of a broken plate to his justly celebrated boils or small-pox pustules! Men like Cathell still ask, "What has Homœopathy done for science?"

Apart from a renewed demonstration of the law that the reactions of living tissues are exactly opposite to the direct actions of drugs of all kinds upon them, we have in silica a powerful exemplification of what is every day being accomplished with our methods of trituration and attenuation, proceeding in regular geometric progression, in the presence of a neutral medium. Our methods make available, without the formation of soluble salts, the most insoluble substances, such as silex, graphite, charcoal, sepia, and the pure metals and metalloids, and they enable us to use safely, without dilution, through calves, horses or guinea-pigs, the most virulent poisons, ptomaines, disease-products, snake and spider poisons, and alkaloids of the greatest activity.

But because these methods lead to the "little pill" and the "tasteless glass," the "unrestricted" "regular" dare not use them, lest he incur the heinous charge of "practicing Homœopathy," than which, in some eyes, there seems to be no greater folly or crime. How much senseless ridicule has been thrown upon the homœopathic system of attenuated doses by even such well-meaning minds as those of Dickens and Darwin, of Huxley and Holmes!

Tyndall, whose studies lie much among the little things and lesser-seeming forces of nature, has a good word for us when he likens the action of the infinitesimal dose to the vibration of the tinkling bell on the collar of the Alpine mule, the gentle force of which is sufficient to start the ready and destructive avalanche. So the atoms of the first or second order in silica,

in the third or thirtieth attenuation, do not have great force stored up in their feeble doses, but they serve to start the greater physiological forces of the living body into active resistance, and the result is an avalanche of power that will restore health if the vitality of the system be not too much depleted before the reaction begins. The atom of silica is to the complex "physiological unit," to borrow a phrase from Herbert Spencer, like the mustard plaster on the pleuritic thorax—it excites a healthy reaction; while, being pleasanter to use and under better control than the plaster, it naturally tends to displace it. So our "exclusiveness," of which so much capital is made by our opponents, is not from a puerile dogmatism, but solely because we reject the mustard plaster and the red-hot iron, since we have learned a better way. The old school, on the other hand, seem to be deterred from using our methods and doses solely from the fear of ridicule and social ostracism from their fellows.

In science it is always allowable to offer a new hypothesis to explain newly-found facts, and often the hypothesis of to-day becomes the proven fact of to-morrow.

Spencer, in explaining vital force, offers a hypothesis of the existence in all living tissue of certain "physiological units," supposed to be more complex than any yet demonstrated in dead matter; and by the ready decomposition of these, and the release of their imprisoned forces, he explains many of the phenomena of life.

Darwin, too, to account for heredity, supposes the existence in each cell of a living organism, a miniature copy of that cell, which he calls a "gemmule," and assumes that these are transmitted from parent to offspring; and so he explains the likenesses of succeeding generations.

Now, to help the mind to conceive rationally the action of high potencies, let us assume that each of the supposed ultimate atoms of each simple substance or element, and each of the supposed ultimate molecules of every compound substance, contains one or many included orders of atoms and molecules; that when Dalton, for instance, figures out by the laws of atomic weight the probable number of atoms in a grain of silicon, or

of molecules in a grain of silica, each one of these particles really contains a million million of the next smaller order, and these again hold each a billion billion of a third order, and so on.

We can safely assume, from what we know of matter, that ordinary grinding and dissolving will not separate off any of these finer orders of atoms, but that they will retain their inward cohesion until some neutral medium is regularly supplied and renewed as the trituration progresses. This will serve, with the grinding and succussion, to keep separate and active the smaller orders of atoms.

By this conception of self-included orders of finer and finer atoms it is easy to see that the presence of real matter is not only possible but probable in potencies higher than the twelfth, where sticklers for the older atomic theory would have us stop, while the facts show that some other explanation of the situation is necessary, for silica and many other substances are active in the thirtieth, the two hundredth, the ten thousandth, and even higher. We cannot defend the nomenclature of the "fluxion" potencies, which is demonstrably much lower than is assumed, but we know they are productive of good results, however numbered.

One of the most logical objections to the use of homœopathic attenuations in any scale originated with Dr. E. M. Schaeffer, then of the Army Medical Museum in Washington. He said he could not conceive of a dose of silica, silver or iron being of use in attenuation as long as we eat off of flint plates with silver forks and iron knives, for we must constantly be getting similar small particles in every mouthful. To-day's hypothesis of different orders of atoms offers a solution to the problem, as it does to the wonder that we can cure chills and fever with attenuated atoms of common salt while the same salt is in the daily food. The explanation lies in the probable fact that the atoms in each case, though of the same substance, are not the same in size, because so differently prepared for use. It is easy to see, too, why lower potencies benefit some cases and high potencies are best in others, for the action of either is in accord with the kind of disturbance present in the

organism of the body. Coarser and cruder doses fit best with some causes of disease that act on the lower degrees of bodily energy, while finer and subtler doses easiest affect the higher portions of the organism nearer to the mentality, more intimately vital, and often more apt to be chronic. In either case, close observation and frequent practice is needed to decide the dose. Some recent experiments of Nageli, of Switzerland, show wonderfully the power of high dilutions. Some copper coins were suspended for a short time in a glass dish containing water, in which was growing a water-plant of the species *Spirogyra*. This quickly died from the deadly influence of the copper, which was still exerted even when the coins were removed, the dish emptied, washed, boiled and dried. As soon as this *spirogyra* was put in, with fresh water, it died just as quickly as in the presence of coins, but did not die in other dishes similarly treated, but which had not had any copper about them. By this sort of "vital chemistry," which any one can verify, we may yet show that homœopaths are not such fools as they have been thought. In place of the microscope, the crude reagents of the test-tube, the balance and the spectroscope, all which deal only with dead matter, let us make systematic tests of our dilutions and tinctures on living matter, and we will yet prove our case to the most skeptical.

Even Darwin admits that very weak solutions may be very active. To quote his words, he says: "The fact which appears truly wonderful is that the one-twenty-millionth of a grain of the phosphate of ammonia (including less than the one-thirty-millionth of efficient matter), when absorbed by a gland, should induce some change in it which leads to a motor impulse being transmitted down the whole length of the tenticle (of *drosera rotundifolia*), causing the basal part to bend, often through an angle of 180°. Astonishing as is this result, there is no reason why we should reject it as incredible."*

We have, then, no reason to give up our small doses of silica, nor to doubt this record of their effects, for the burden of proof otherwise is on those who contemptuously set aside

* *Insectivorous Plants*, by Charles Darwin, p. 172.

everything that bears the hall-mark of Homœopathy. We only do our duty when we refuse to give up our discoveries and go over to those who show their desire to reject them all as visionary and unpractical theories.

DISCUSSION.

Dr. C. S. Schwenk: The paper of Dr. Cranch was so thorough and instructive that I have been lost in listening and stopped thinking for a while. The paper has certainly involved very deep thought, and is the emanation of a great deal of care and experience. It opens up a new line of thought in the direction of the dilution of our remedies, substantiating the things that we find proved in the sick-room daily. It is worth a great deal of consideration, especially from the fact that the old school are inadvertently disposed, more than many members of our school, to substantiate the theories that Hahnemann advanced a century ago. New things are making their appearance every day. A little farther back the use of some of the coal-tar products was quite a revelation in the line of dilutions, especially that of pyoktanin, in which two loaves of bread were experimented with: one was not treated and the other was treated with a one-twenty-five-thousandth solution. The one not treated moulded when exposed to a damp place. The other one was preserved for a week free from all mould, which would conclusively prove the wonderful power of dilutions. So that by indication and process of reasoning, as we progress in this line of thought, we come down as the doctor here has stated. He has confronted us with something deeper than molecules, something deeper than atoms—we are brought face to face with something new. We recognize one kind of protoplasm, in all probability because of our inability to procure or produce a sufficiently strong lens to our microscope to show that there are many kinds of protoplasms. We simply stand on the margin of this great and wonderful truth, and the explanation of our diluted remedies cannot be refuted; but the man who carefully applies them, and sees their daily action in their higher dilutions, not necessarily in the millionth, but what has come to be regarded as the higher dilutions, will

be convinced of their efficacy. We are confronted with these facts, and cannot help but accept these things as proving our remedies highly curative.

Dr. Charles Mohr: I am heartily in accord with everything that Dr. Cranch has said in reference to silica, as well as the choice of silica in various dilutions and potencies; and if anybody doubts the efficacy of, say, the sixth decimal or the twelfth centesimal, the thirtieth centesimal or the hundredth of silica, all that he has to do is to individualize a certain number of cases and apply the remedy according to the methods laid down by Hahnemann in his *Organon* and watch the results. If he will do this honestly, I am sure he will come to the conclusion that there is a power in silica as a curative agent, no matter what the dilution or potency may be, if administered according to the rules of practice of the good homœopathic doctor, and will be convinced. Silica is a remedy, I believe, that is not frequently enough used in homœopathic practice. You take, for instance, cases of mere neurasthenia, in which there is a very sensitive organization, in which the individual suffers day after day and month after month; they try various methods of treatment in order to have a return of good, sound health; they change climate, they are dieted, they resort to various means and cures, they are given sedatives for some sets of symptoms, stimulants for other sets, and yet these individuals go on suffering! Given a case, for instance—I have seen a number of such—where you have a very sensitive individual, where an individual is exceedingly readily influenced by extraneous causes, where exercise even when it is considered moderate is exhausting, where changes in atmospheric conditions always make them feel worse; where, no matter what they eat or drink or take in the way of tonics, they pass sleepless nights, they are irritable—give them silica in the thirtieth or twelfth or sixth, or, I will say to those who believe in more tangible doses, give the third decimal trituration and watch its effects, and simply give directions as to that person's living correctly, as to hygienic principles, and they will eventually recover.

Dr. Cranch in his paper referred to dental fistula. Only a

few months ago one of the students of our college had been suffering for a long while with a defective tooth, and, although he had consulted the most skilful dentists in Philadelphia, he still suffered pain in his teeth and the periosteum—the bone from time to time had been involved with a suppurating process. He had taken various remedies; he had applied various mouth lotions; he had done everything possible to disinfect the mouth, so to speak, and to put the mucous membrane and tissues in good condition; he lived a correct life; and yet this sensitiveness of the teeth, this tendency to degeneration in the process of the tooth, went on until it was absolutely stopped by a few doses of silica, which I recommended him to take in the twelfth decimal trituration. Now, for two months that man has had more comfort, so far as the mouth and teeth are concerned, and has been in a better condition, than for years, notwithstanding all the efforts that were made to put his dental apparatus in good condition. Now, when I get a result like that, I do not care what the theory is; I do not care what excuse is made as to the efficacy of the minute or infinitesimal dose; I simply take results as evidence of the efficacy and potency of silica thus prepared and administered, and I have a perfectly logical right to claim that the curative effect was the result of the administration of silica, as another man would if he got a good result with any other method of treatment. There is a good deal that might be said on this question, but I think that I have made my point sufficiently clear. I can mention other instances, as other practitioners can. I do not think we need spend any time in trying to prove the efficacy of the homœopathic remedy in the dilute or potentized doses administered according to the method of Hahnemann, except by the practical application of the law, and accept the result, attributing the results to the homœopathic remedy, and not to anything or everything else.

Dr. Z. T. Miller: There is hardly time for us to take up the question of the efficacy of the homœopathic remedy. It has been demonstrated sufficiently to make what I consider an established fact; as far as silica is concerned, it is a remedy that I use frequently. I never give it lower than in the twentieth potency.

Dr. P. S. Duff: I want to make a remark in reference to a case of a little boy that I had at one time. The mother said that he had been bitten on the leg by a snake; there was a hole to the bone; they had no idea that it could be cured; it was like an ulceration. I gave two or three doses of silica, and there was nothing left of it.

Dr. Anna C. Clarke: I have a case of carcinoma of the breast in a woman well advanced in years, who will not submit to an operation. It has been nearly six years since it began developing, and while she is on silica we have very little discharge and almost no advance in the trouble. If any complications set in, and it becomes necessary to change the remedy, almost immediately the cancer growth shows more activity, and the silica seems to keep it in check. I have used the 12th, four doses a day.

Dr. Korndœrfer: It is one of those cases showing a positive proof of the efficacy of the remedy, although it may not be a cure. I would suggest that in cases of that kind, do not be afraid to give it in higher potencies. I have seen its action in similar cases many times with good results.

Dr. A. L. Kistler: I simply wish to emphasize my experience with silica. I never give it lower than the 30th, and I have always had very good results. I was notably impressed with the sweating of the feet. I do not believe that I have ever given silica under these conditions that I did not get good results; most of the cases were cured.

Dr. T. H. Carmichael: My friend, Dr. Howe, once told me that in a case that came into the dispensary with a very deep sinus that involved the bone he gave silica, nothing higher than the first decimal. He said he never had a wound heal more beautifully in his life than did that with silica in the first decimal.

Dr. J. F. Cooper: I have no doubt as to the efficacy of the law of *Similia Similibus Curantur.* I was ailing when I came into the homœopathic profession and never had freedom from pain. I took two doses of sulphur (sulph. 30th, two doses, daily, for one week; sulph. 30th, one dose, daily, one week), and I have had nothing to complain of since. Silica is seen in

many forms of nature—the solid rock from which it comes, and the straw is covered with it; we take it with every bite of bread, and we are so intimately connected with it we cannot get away from it. I have used it not less than the 12th, and from that up. I have no doubt as to its efficacy.

THE AMMONIUM SALTS, WITH SOME COMPARISONS.

W. H. A. FITZ, M.D., PHILADELPHIA.

In considering a drug, or family of drugs, endeavor to study their elective affinities, as they give form, character and meaning to their symptoms. Any peculiar, striking or uncommon symptom should be carefully noted, as this may give us the clue to its homœopathic adaptability in some pathologic state heretofore unsuspected or unknown. Find the *red string* in every pathogenesis and we have the key to many symptom puzzles.

Looking to homœopathic adaptability we find the ammonium salts best suited to fat, sluggish, bloated patients, who are indolent and lead sedentary lives. The ammonium mur. suits sluggish people whose trunk is fat, the legs being disproportionately thin. This is a constitutional difference from the carb. Ammonium carb. produces a condition of the blood similar to scurvy. Hæmorrhages from the mouth, nose and bowels show its disintegrating influence. The muscles become soft and lax, with marked emaciation. A strong elective affinity of the salts is for the mucous membrane. The effects range from simple inflammation to a complete destruction of the epithelium, leaving a raw, burning, ulcerated surface. Diseases producing similar effects might find their simillimum in these salts. Upon the skin their effects vary from a papular to a vesicular or ulcerative condition.

Individually considered, *ammonium carb.* produces a scorbutic condition. The powers are weakened; blood tissue degener-

ates; dark, fluid-blood hæmorrhages appear, and a hectic form of fever. In any disease where there is a deficient oxygenation of the blood ammonium carb. should be thought of. There will be somnolence or drowsiness; large mucous râles in lungs, grasping at flocks; blue or purple lips and brownish tongue. It may bring about reaction in cerebro-spinal meningitis where the patient, stricken down by the violence of the disease, is cold, non-reactive, stupid and cyanotic, with very weak pulse. It is useful in dilatation of the heart, where the patient suffers from ascending a height. A warm room is unbearable. There may be palpitation with dyspnœa and epigastric retraction and possibly cyanosis. The lax effect of the drug may be seen in pneumonia, where there is marked debility and tendency to heart clot. In chronic atonic bronchitis favoring emphysema much mucus in the lungs, dilated tubes and pulmonary œdema. The patient is weak, sluggish in his movements, coughs continually, expectorates with great difficulty or not at all. Drowsiness, and even muttering delirium may be present. In scarlet fever it is indicated by this same tendency to somnolence, with the dark-bluish color of the tonsils; swollen internal and external glands. The child sleeps with his mouth open in order to breathe, and starts from sleep from a stoppage of breath. The rash is miliary. In nasal catarrh the nose is stopped up at night and the patient awakes gasping for breath; worse from 3 A.M. to 4 A.M. The cough is dry and tickling, with hoarseness, and great oppression from mucus in the chest. The nostrils are raw and sore. The coryza is excoriating, and there is rawness and burning down the sternum. The sputum is slimy and contains blood flecks. Ammonium carb. is especially useful in winter coughs. In fat, lax, torpid patients compare amm. carb. with amm. mur., arn., ars., aur. mur., bar. c., bell., calc. acet., calc. carb., cinch., ferr., graph., lyc., merc., puls., sep., sil., sul., thuj.

Ammonium Mur.—Its effects are mucous-membrane irritations; disturbances of the blood circulation, worse especially in a warm room; blood ebullitions, violent throbbing in the arteries, accompanied by anxiety and weakness, as if paralyzed. There is a periodicity of symptoms, as in chills and fever where the paroxysms return every *seven* days.

Nervous symptoms are pain in the left hip, as if the tendons were too short, making the patient limp when walking; gnawing in the bones, worse sitting. In the joints, constrictive sensations. Sensation as if the hamstrings were too short, better from continued motion; it, therefore, affects the fibrous tissues about the joints. It is useful in chronic sprains.

Female organs: The inguinal and hypogastric regions are affected, suggesting ovarian and uterine irritation. There is tensive pain in one or the other groin; she feels as though she had sprained herself. There are stitches, cutting and soreness, but most characteristic of all is the strained feeling in the groin, which makes her walk bent. The muriate stool, which crumbles at the anus, is a usual accompaniment. A characteristic leucorrhœa is brown and lumpy or clear and albuminous, following every urination.

Nose: There is coryza. The nose is more "stopped-up" at night than in the day. One side is usually stopped-up at a time. The discharge is watery and excoriating, making the inside of the nose and upper lip sore. The throat is swollen so that the patient cannot open his mouth; and throat and mouth are filled with a viscid phlegm of difficult expulsion. Throbbing in the tonsils is characteristic. This makes it useful in scarlatina and tonsillitis, where the faucial symptoms produce almost strangling.

Chest: The cough is violent, which excites the salivary glands, causing the mouth to fill with saliva; there is hoarseness, with burning and rawness in the larynx; coldness between the shoulder blades; heaviness in the chest; a sensation as of a lump in the chest; spots in the chest burn, throb and beat with the pulse.

Ammonium mur. has a specific action upon the liver. It is useful in chronic congestion of the liver; the stools are coated with mucus and the spirits depressed. Constitutionally, compare ammonium mur. with bry., calc. carb., calc. fluor., calc. phos., phos., puls., rhus tox. and sepia.

Ammonium brom. is a unique salt, which requires more extensive proving. Its elective affinities seem to be for the brain, the cervical and dorsal portion of the cord, the eyes and nose.

It becomes useful in cerebro-spinal and basilar meningitis, and certain severe occipital headaches; also in the peculiar spasmodic cough attendant upon cerebro-spinal congestions. Consider it in epilepsy with basilar congestion.

In brain anæmia, where the mental symptoms indicate the anæmia due to diminished calibre of the blood-vessels. Its symptoms indicate it in strumous ophthalmia, conjunctivitis, corneitis and leucoma. It is useful in swelling of the edges of the lids and inflammation of the meibomian glands. In post-nasal catarrh, where the discharge is thick and stringy. Its cough is sudden and spasmodic, with pains in the stomach. It comes at intervals of a few minutes, lasts for hours, and is worse when lying down at night. There is a sensation of tickling irritation in the larynx, with a distinct whoop; and, if there be any expectoration, it is a stringy, tough mucus.

Ammonium caust. may be thought of in aphonia, with burning rawness in the throat.

Ammonium acet. has a clinical reputation for curing dysmenorrhœa, but as no provings have been made its indications cannot be given. It produces a profuse flow of urine containing sugar, which might make it a possible remedy in diabetes mellitus.

Ammonium phos. has been found very useful for chronic gouty nodosities.

Ammonium picrate is valuable for the headache, accompanied by marked nervous depression, before, during or after the menstrual epoch.

How the genius of Hahnemann is growing more effulgent as physiological research is giving us the interpretation of symptoms! Every recorder of symptoms should be a skilled anatomist, physiologist, physiological chemist and physical diagnostician. He could then give exact definition to the symptoms as given by the prover. In the differential comparison of symptoms we must keep in mind the general action and modalities of the drugs compared, as they will give us the clue to the interpretation of the particular symptoms.

Let us consider a few drugs in comparison with these ammonium salts.

Compare ammonium carb. with antimon. tart., antimon. ars. and antimon. iod. in any disease where there is deficient oxygenation. Ammonium carb. with arnica in typhoid states when the patient is drowsy, heavy, and falls asleep answering questions.

Ammonium carb., arnica and bovista are all of use in poisoning by charcoal fumes. In scarlatina, both amm. carb. and bell. have the right side of the throat affected, bright red rash and drowsiness; but the differences are that in amm. carb. the rash is miliary; the throat is a darker red; the drowsiness is more complete. In bell. the eruption is smooth; the throat a bright red; the drowsiness alternates with wildness, starting and crying out in sleep, and restless delirium.

Amm. carb. and apis are indicated in low types of scarlatina with somnolence; both have miliary rash, but apis has puffiness of the throat and dropsy of the uvula. Apis also has inflammation or irritation of the cerebral meninges, indicated by a sudden shrill cry and rolling of the head.

Amm. carb. and lach. both have blueness of the surface, somnolence, engorgement of the neck and dark-red or blue swelling of the throat; but lach. has extreme sensitiveness of the surface to *light* pressure. Amm. carb. and rhus tox. both have dark throat and drowsiness; but rhus tox. is more restless and affects the left parotid, while amm. carb. affects the right. In nasal catarrh, consider amm. carb. with kali bich. and ambra grisea for soreness and rawness of the nostrils and bluish mucus.

Amm. carb. has the 3 A.M. aggravation in common with the kali salts. In the rawness and burning down the sternum of amm. carb. consider carbo veg. and caust. Amm. carb. and laur. both have blood-flecked expectoration. Amm. carb., arnica, sulph. ac., amm. mur. are useful in sprains, when the joint is hot and painful. When thinking of ammonium mur. for ulceration of the heels, with tearing, stitching pains, worse at night in bed, better by rubbing, think also of puls., caust., manganum, ant. crud., ledum, graph., nat. carb., allium cepa and sabina. Manganum in rheumatic patients when the weight cannot be borne on the heels. Ledum, graph. and nat. carb.

cause blisters on the heels. Allium cepa cures ulcers caused by friction of the shoe. Sabina is suitable in plethoric women with rheumatic inflammation. Medorrhinum, when there is marked soreness of the soles on walking. In gouty nodes compare ammonium phos. with aur. mur. natr., benz. ac., bry., calc. carb., calc. fluor., caust., form., ledum, lith., lyc., rhod., sab., sil., staph., sul.

SOME THOUGHTS ON TEREBENE.

A. L. KISTLER, M.D., ALLENTOWN.

The determination of bringing to your notice this unproven drug for consideration may seem passing strange to some of my auditors; to such I would say my only excuse is my unbounded confidence in its efficacy.

Doubtless, for want of any clear-cut indications, we frequently pass by any new agent that may attract our momentary attention in our hurried gleanings of the medical journals, unless now and then we be in some dire strait, and see therein an opportunity of making an application instanter.

Thuswise did I become acquainted with the subject of this paper some six or eight years ago, and learnt since to reverence it very highly. There has not, to my knowledge, been recorded anywhere a proving of terebene, and I have none to present to-day; simply the result of my observations upon its action on the respiratory tract. I employ, preferably, a 20 per cent. solution, and never higher than 1x, with which I saturate the regular number, six disks, administering two or four to a dose for an adult.

I have limited its sphere of action to the sub-acute and chronic inflammations of the larynx, trachea, bronchi. And, gentlemen, you need not stop at that; you can include lung tissue. In fact it was a typical case of phthisis pulmonalis that finally determined my choice of terebene as a fitting subject for your consideration. The party in question is delicately constructed, highly intellectual, transparent skin, in fact a perfect phos.

picture of a gentleman who, realizing his condition, sojourned in Cuba during the past winter, and there were none amongst his friends so bold as to venture the prediction that he would ever return alive. This gentleman said to me one day last June, "I realize my condition and that there is no cure for me, but the relief those tablets afford me is positively wonderful; I have never taken anything that has had such a magical effect." That was the verdict after having taken the terebene for months. It may not be amiss to interject right here that that is the verdict I hear from nine-tenths of all the cases where I administer it, which is almost daily.

As I have already stated, it is in the subacute stages of inflammations of the respiratory tract that you will find it called for most frequently. Probably the acon. and bry. stage has gone by ere you are consulted, or perchance the too persistent and long-continued use of some household panacea has muddled up your "just ordinary cold," and it is here that you turn to terebene with absolute confidence, and if now and then it fail to complete the cure, you will *never* find any totally negative results. You will find it grouped here with such remedies as nux, phos., sang., puls., rhus and causticum, and if you have a mind to alternate, you will find it most satisfactory for that purpose. It will loosen the secretions and make expectoration more easy, and relieve that tightened feeling. The cough is tickling, teasing, with tendency towards harshness, little or no expectoration, would like to get hold of it but can't. For neurotic coughs it certainly is entitled to front rank; I should say it was the "ne plus ultra." Even in cases of undoubted asthmatic tendencies I have found it highly efficacious. About a month ago a lady from Philadelphia, aged about 60 years, who had been a severe sufferer from asthma for many years, and had to resort daily to inhalations for relief, derived such decided benefit from its administration that she has, since her return, written repeatedly for those "pine" tablets, as I am wont to call them.

That it does not merely relieve, but positively cures, can be best demonstrated by a case from my note-book. Five summers ago I was consulted by a young lady aged 28, a decided

brunette, and of a nervous temperament. Her sufferings dated back four years. One night in July she awakened out of her sleep with very decided dyspnœa and cough, cough, cough, until towards morning, when she was enabled to raise more or less of a white frothy expectoration, which afforded relief, only to be repeated the following night and every other night throughout the summer; she would, furthermore, have to lie with chest and head elevated to a half-sitting posture for fear of suffocation; any nervous excitement, even receiving company, would ofttimes in fact, nearly always, precipitate an attack of this kind. This condition of things went on day in and night out for about four years, and, in spite of the very best medical attention, without any relief. I administered the terebene in the usual dose, two disks upon retiring, and if necessary to be repeated in fifteen to thirty minutes. Very rarely was it necessary to repeat the dose more than two or three times, even from the very first time it was administered. It would almost instantly loosen the secretion and relieve that cat-purring sound, to be followed by the expectoration of a mouthful or two of white frothy mucus, which ended the seance. In less than a month's time the patient was entirely cured; but for about a year she would keep a supply constantly on hand, and upon the slightest manifestations of an attack, one, or at the most two doses, would side-track the same. She remains cured to this day, and has had no attack certainly within the last three years.

I wish to state also that for huskiness of singers and public speakers you will find it an admirable remedy.

In cardiac dyspnœa, whilst I recognize that the desideratum is to locate and cure the lesion, if you will just interject a few doses of terebene you will greatly relieve your patient until you are sure of your ground as to the identical lesion, for you know we can't all be experts.

I am inclined to think that terebene acts largely through the pneumogastric, though I am content to leave that for wiser heads to determine. I wish only to emphasize, in conclusion, that you may be absolutely certain of results if you will but give it a trial.

NOTES ON NEW REMEDIES.

MALCOLM MACFARLAN, M.D., PHILADELPHIA.

SHEEP THYROIDS, desiccated and prepared by Armour & Co., of Chicago, carried by the writer to the 30th potency, decimal scale—using pure water. Experiments with the dynamized preparation were commenced more than a year ago to gain a clear idea of its principal physiological or remedial action. Following out a plan pursued for years, it was given often, and for several days, to a great number of persons slightly ailing, but not aware of being provers, jotting down as well as keeping in memory the various answers. The prime symptoms were sighing, disturbed and unequal respiration, anxiety about the chest, as if constricted or as if the movements were obstructed by tight clothing. The prover is often aware of making efforts to breathe, and does not act as if this function was without effort. The laryngeal symptoms were not marked, and confined to more or less slight clearing of the throat and upper air passages. This chest constriction lasted but a short time, varying from a few moments to an hour or longer, and showed a disposition to recur several times during the day. With this sighing was rapid heart action, fear, nervousness and anxiety, indisposition to exercise. The majority of the provers were women. From many no results were obtained; only those symptoms were retained which seemed to be constant or present in all the provers.

Acting on the general answers obtained, the remedy has given marked curative results in various forms of asthma or similar symptoms; has helped hysterical cases with occasional disturbances of respiration and mental state mentioned above. Extraordinary good results were obtained in two very old cases of exophthalmic goitre, as to improving the respiration. Much help has been given in that common condition of short breathing in the aged largely due to changes in the vessels. It has

been tried many times for the relief of cough, bronchial or lung trouble, but without benefit. It seems to help chest symptoms due to spasms or nervous irritation. It ought to be of service in whooping-cough, as far as its spasmodic action is concerned, but no trial was made of it.

Functional or sympathetic disturbance of the respiration is a most distressing and common symptom noticed in many diseased conditions and often difficult to relieve. Perhaps thyroid extract might be found of service in some such cases. Minor symptoms, affecting the head and eyes, were noticed but not recorded, because not constant. In an exhaustive proving they would be of use in completing the picture of the proving. The busy man wishes to avoid mental confusion by the recital of hundreds of symptoms, without being shown their relative force and importance.

Protonuclein, prepared by Reed & Carnrick, of New York, was carried to the 30th potency, decimal scale, using water. The work has not been done on this remedy in as thorough a manner as the former, but what was noticed during provings was a marked effect on the enlarged tonsils of children. On this suggestion, given clinically for a case of chronic scrofulous enlargement of the cervical glands, the effect for good was speedy and permanent. Subsequent curative action has been noticed several times in similar cases of glandular swellings, particularly in children. A young and otherwise healthy clergyman, who had been afflicted for two or three years with successive crops of boils, never disappearing altogether, insomuch that he was compelled to give up his charge, had been under various kinds of treatment, such as powerful crude medicines, restricted and special diet, and a course of baths at Sulphur Springs, was quickly cured with this remedy in the 30th potency. In a case of long-lasting enlargement of the cervical lymphatics of the neck, due to syphilis, the cure was rapid and complete. This remedy has no doubt a wide range of usefulness, but will require patient effort to determine its more exact curative sphere.

From the New York Pasteur Institute was obtained an active fluid containing the "*Bacillus prodigiosus and erysipelas toxines.*"

This was carried to the 30th potency, using water. More or less experimental work has been done with it for the past two years, with surprising and singular results in some cases. The most constant symptoms were chilliness, coldness, nervousness and shaking, lasting as a rule only for a few minutes, but frequently recurring during the day. There was no fever nor sweat following this; simply a mild reaction, with a feeling of weakness and some nausea. The mental state was, fear that some serious sickness was coming on. From what could be learned, the urine was diminished in quantity and darker than would be explained by being scanty. Taking another view of it not derived from its proving, but as the poison of erysipelas, the potentized preparation was given with immediate help in a case of gangrene of the lower extremities, attending advanced diabetes mellitus. Surgical means were used to excise the parts, but numerous gangrenous spots on both legs quickly took on healthy action after the use of this remedy, and no more appeared. The diabetic condition, however, was in nowise helped, but it appeared as if a speedy fatal result was averted. This was a remarkable case. Led by the partially successful work done by others in the use of these toxins in the local treatment of some forms of malignant disease, it appeared that the potentized remedy might be of service in such cases. It was given a faithful and prolonged trial in several, principally of sarcoma and scirrhus, without any benefit whatever. It is believed worthy of use in cases of blood poisoning, sloughs, wounds which are septic, malignant scarlet fever, malignant pustule, sloughing of the skin of the lower extremities in advanced kidney disease, etc.

Ichthyol.—A fossil product of complex structure, containing within itself a high percentage of sulphur in soluble form, elements of the coal-tar products, with much else beside. This is destined to be one of the most remarkable and generally useful remedies given internally. Its action on many diseased conditions affecting the skin, kidneys and mucous surfaces is often prompt and helpful. There seems to be nothing better in the treatment of the obstinate winter coughs of old people, so difficult to help. A chronic case of diabetes mellitus, in its

last stages, was so affected by long-lasting, intolerable itching, with raw, fiery patches about the thighs and genitals, that she was in extreme misery. The 30th decimal of the remedy brought permanent relief from the skin symptoms and itching in a few days, and unexpectedly limited the amount of urine passed. While there was no real improvement in the diabetes, yet the change for the better as to the skin was immediate, lasting, and remarkable. In the discolored, scaly and itching eczema of the lower extremities, so common in middle-aged and elderly people, whose habits have not been correct, its results are best seen. The disease is usually chronic when first met by the practitioner, and all sorts of local and internal remedies have been tried without avail. Ichthyol diluted is a most soothing and grateful application in erysipelas—it is to be considered here as a powerful and harmless antiseptic, and is useful internally also. It is well known how helpful is potentized sulphur in certain stomach and bowel symptoms. It is difficult to make or get a solution, even of a small quantity, but it exists in such an amount and in so soluble a form in ichthyol that the latter may be given, often, as a substitute.

When ichthyol, 30th, is given internally for several days, it produces heat and irritation of the skin, disposition to soft, shapeless stools, and frequent urination.

THE GENIUS OF SEPIA.

C. S. SCHWENK, M.D., PHILADELPHIA.

In writing this paper it is not intended to give a detailed description of sepia. That was done by Hahnemann and has not been improved upon since, but has been strengthened by clinical corroboration.

However, when confronted by the delineation of a remedy having about two thousand symptoms in its composition, the task of moulding it into practical working-shape is not a sinecure.

All of these symptoms must be carefully considered, and from what, upon first reading, seems but chaos, gradually arises the framework of the remedy, its genius, which we find present wherever sepia is demanded by disease.

One word will describe sepia: *Relaxation.* We see it in the pot-bellied mother; the prolapsed uterus; the prolapsed rectum; the patient who is puffed and flabby; *venous congestion;* and it is upon this last condition that all the important symptoms of sepia depend.

Portal stasis; heavy, sluggish liver; yellow, dirty, yellow-brown blotched skin; limbs heavy as if paralyzed; worse after sleep; and a characteristic of sepia is: worse after sleep, since sleep allows of still greater relaxation. The sepia patient must have his head high on pillows to facilitate venous circulation and gain sleep, otherwise his head gets uncomfortably full and causes anxiety. Anxiety is found present in all sepia patients.

Sphincters are weak, bowel and bladder evacuations are sluggish. Joints are weak and relaxed even to dislocation.

The sensation of emptiness and goneness in the epigastrium is one of the cardinal points of sepia, having its foundation in venous stasis.

The sepia patient is weak, seemingly debilitated, nervous; head jerks backward and forward; sensitive to noise and disturbances, which irritate her. She cries a great deal, and is much depressed, anxious and melancholy.

Pulsatilla here stands very close to sepia. Both cry very much, and they will tell you that the tears will run down their cheeks without their having anything to cry about; tears fill their eyes while talking about it; both have morning sickness and nausea upon smelling the cooking of food. But here is the difference: the pulsatilla patient is tearful, mild, affectionate, yielding and clinging; while the sepia patient may do just as much crying, she is irritable, anxious, quarrelsome, scolds a great deal, and has a peculiar cold dignity about her. Don't vex the sepia patient, for if her dignity will not suffice to hold her in reserve, her abuse will be limited only by her vocabulary.

The sepia patient is better by exercise. Why? Because exercise, such as walking, and even violent exercise, favors the return

of blood to the heart, relieving the venous engorgement upon which the sepia symptoms depend.

The prolapsed uterus would naturally be intensified by walking. Jerky motions, such as horseback riding or jolting over rough roads, will also intensify sepia symptoms. The faint, exhausted condition is also a state beyond the redeeming influence of exercise, as well as the headache, which is improved by rest in a quiet, dark room, away from light.

The sepia patient is worse in the morning because of the relaxing influence of sleep, and worse in the evening from the exhaustion of the day's work, with its attending relaxations and engorgements.

The discharges of sepia are mostly irritating, causing itching and burning.

Another part of the genius of sepia is the expenditure of more force and exertion than is necessary to accomplish anything mentally or physically, showing the unconscious recognition on the part of the patient of the fact that she is at her best when actively engaged, thoroughly aroused, and with her circulation in an active state.

There is purposely a manifest paucity of symptoms in this humble description of such a large remedy as sepia, but it gives the genius of the drug, and wherever sepia may be called for this genius will be present, furnishing the key for the correct understanding and memorizing of the symptomatology.

The following extracts from different therapeutics, showing the application of sepia to different affections by men renowned for their knowledge of materia medica, illustrate the dominating presence of the genius of sepia in each instance:

Functional Derangement of Liver, by Lilienthal.—"Constant aching pain in right side of abdomen, extending, when violent, to the chest and back, with oppression of breathing, aching weight and soreness in right hypochondrium, distress and aching in right shoulder and scapula; cheeks flushed; forehead and conjunctiva yellow; irregular yellow patches on face; occipital headaches; lassitude; tongue flabby and indented; no appetite, or easily satiated; flatulence; restless sleep; urine scanty and loaded with urates; atony of connective tissue and relaxa-

tion of blood-vessels; tissue torpidity relieved by exercise, which hurries on the blood; pains in hypochondria more tolerable when patient lies on painful side; hepatic neuralgia with great depression of spirits; frequent stitches under right ribs."

Uterine Displacements—Guernsey's Obstetrics.—"Painful stiffness, apparently in the uterus. Pressing in the uterus, oppressing the breathing; sensation as if everything would come out of the vagina; she had to cross her limbs to prevent it. Prolapsus of the vagina and uterus. Sensation of weight in the anus, not relieved by an evacuation. Great sense of emptiness at the pit of stomach. The urine deposits a clay-like sediment, which is difficult to remove from the chamber. Menses too late."

Vertigo, by Raue.—"Dyspepsia; venous hyperæmia in abdomen; constipation; flatulency; gradual development of amenorrhœa; hypochondriasis; climaxis, with flushes of heat and sweat; sleeplessness. Worse when drinking. Brought on by mental overexertion; excess in venery."

Diarrhœa, by Bell and Laird.—"Green, mucous; green, slimy mucous; jelly-like; bloody. Almost constant oozing from the anus. Expelled quickly; frequent; not profuse. Fetid; sour; putrid.

"Aggravation: after taking boiled milk; during dentition; in children; after taking meat; after eating potatoes; during pregnancy.

"Before stool: nausea; colic.

"During stool: prolapsus ani; jerking pains from anus upward through the rectum.

"After stool: exhaustion; debility; prolapsus ani.

"Accompaniments: jerking of the head backward and forward. Fontanelles open. Face pale or sallow; sunken, yellow about the mouth and yellow saddle across the nose. Eyes sunken. Bad smell from the mouth. Aphthæ. Tongue coated white. Putrid or sour taste. Food tastes too salt. Aversion to meat and milk. Thirst in the morning. Sour or fetid eructations. Nausea. Vomiting. Discharge of much offensive flatus. Gone feeling in the stomach, not relieved by eating. Involuntary urination at night in first sleep. Urine turbid, offensive, with

reddish or clay-colored sediment, adhering closely to the vessel. Palms of hands and soles of feet burning hot. Sleepiness in the daytime. Frequent waking at night. Waking at three in the morning and inability to fall asleep again. Rapid exhaustion and emaciation."

From the foregoing extracts it will be readily seen that the different authors embodied the genius of the drug in all their prescriptions; in fact, they could not make a correct selection of sepia or any other remedy and avoid its genius.

We often hear that the indicated remedy failed and that it was selected by one of the best prescribers. The best prescriber was disgusted with symptom-hunting when he subsequently saw the lightning-like rapidity with which O'Hoolihan's compound in capsules acted. Never mind the outcome of the case, for it was a bad one, which rapidly grew worse. It was one that couldn't get well.

You may take a materia medica and prove by matching symptoms that sepia was the remedy; and on the same case, by the same process, you could also prove that pulsatilla, lilium tigrinum and nat. mur. were the remedies suited to the case.

You may even go further and prove that lyc., calc. ost., cocculus, kali carb., stannum, ignatia, carbo an., sarsaparilla, niccolum, oleander, ipec., thea, staphisagria, actea rac. and hydrastis would cover sepia symptoms under certain conditions; but none of these remedies can take its place, nor will they masquerade as the indicated remedy if the prescriber bases his prescriptions on the genius of a drug.

If there was more of this kind of prescribing there would be less fault found with our materia medica; less criticism in the direction of useless symptoms in our materia medica, and there would be unison in the homœopathic school and an *esprit de corps* that does not exist at the present time.

We could then, with irresistible strength, place our system of medicine in the army and navy, and in the public institutions that are to-day ruled by allopathy. Results would be produced compelling recognition from every source. But we will remain just where we are, and even retrogress, so long as we prescribe for our patients at the dictation of wholesale druggists, and

have men in our school and in our societies, paradoxical as it may seem, who ridicule the very system of medicine which they profess to practice.

Keynotes are useful if the prescriber has firmly fixed in his mind the genius of the remedy demanded, but without that they become a sort of bucket-shop flyer, more often missing than hitting.

The attempt to fit a remedy to any given case of sickness by matching symptoms is one of the most certain methods of leading to failure, and at the same time, unfortunately, creating in the mind of the physician the firm conviction that the indicated remedy failed. Relief must be obtained, and the anxiety upon the part of the physician to possess this jewel may be dominated by feelings of pity, or he may be influenced by the nightmare of a successor with the almighty dollar as a grand and ennobling principle stimulating him to steer his shallow craft into the eddies of palliation only to stave off the inevitable rush of disease in its natural channel, where, with failing strength, through loss of valuable time, smooth water is not always reached.

Of course, by the natural order of things, the remedy must be blamed while the physician poses in the demulcent light of destiny, shed by a divinity directing events; and as the curtain falls we sometimes imagine we see the shadows of asinine qualifications projected upon it as a vision of what might have been the cause.

DISCUSSION.

Dr. A. P. Bowie: I heartily endorse this paper. We have had a good paper on Silica, we have had a good one on Sepia, and now, if we had one on Sulphur, we would have three S's of the grandest remedies; and the beauty of them is that they generally effect permanent cures, and that is why they were noticed in our materia medica. The only thing I want to say about sepia is that I have never used it lower than the 30th, but I prefer to go to 200. I think any one who wishes to get the full value of this remedy must use it in the higher potencies.

Dr. Charles Mohr: Sometimes one meets with a sepia case that does not call for the administration of sepia. I would like

to call attention to that fact. I believe that Hahnemann's attention was first directed to the effects that sepia produced on the healthy living individual by watching the effects of this drug in the hands of an artist who used India ink in his art work, and that fact set Hahnemann to work to prove the symptomatology of sepia succus. A few years ago I happened to be talking with a lady who complained of a great many symptoms which, to my mind, were clearly indicative of sepia. Finally I said to her, "What is your business?" "I am an artist; I use India ink in touching up photographic negatives, and in other ways." And then she told me that sometimes she would moisten her brush with saliva instead of dipping it into water, and that accounted for the sepia symptoms. She did not get sepia, but needed another remedy. These symptoms persisted for a month, and I advised her never to put India ink into her mouth; she was given natrum phosphoricum. I want to call attention to that as a co-relative to sepia, because we associate more particularly the natrum muriaticum with it and overlook the natrum phosphoricum. Under the late Prof. Farrington I made a proving with natrum phosphoricum and found, among other symptoms, this condition of the feet and ankle-joint, with eruption resembling eczema to such an extent that I was lame, and Prof. Farrington said then that the proving must stop, and as an antidote he gave me sepia, because the symptoms resembled sepia so much. The symptoms disappeared, and I have had no trouble since. Now, I am a man, but we associate sepia more particularly with a woman. I want to call attention to the fact that sometimes sepia is as much a man's remedy as a woman's. All you have to do is to seek for the symptoms and conditions and get the genius of the drug, as Dr. Schwenk has pointed out, and administer sepia. We do not often associate sepia with skin affections, except with chloasma or liver spots, red spots on the body, when we have a congested condition of a woman's uterine organs; but in my case the patient took natrum phosphoricum, inducing a condition in which it was perfectly plausible to give that—there was venous stasis; there was œdema producing an œdematous eruption around the ankle-joint; they disappeared with sepia. Now, coming to skin

affections, which may be cured by sepia, given a case of a woman who is a subject of venous engorgement or congestion, with relaxation of all the organs and tissues of the body, as described by Dr. Schwenk, you have in sepia a curative remedy in any form of any skin disease in which you may use it, acute or chronic eruptions of the skin, with vesication, incrustation, etc. A few years ago the father of a homœopathic physician in Philadelphia had been suffering a long time with chronic eczema, so that he was disgusting to the members of his own family, because the oozing and exfoliating were very great, and no matter where he went, into the sitting-room or dining-room, he left the traces of this chronic eczema. I pitied the man and his family. I tried to get him in some institution as might be necessary to effect his recovery. I sent him to Dr. Gramm to ascertain whether there was not such a place in the State of Pennsylvania. Dr. Gramm's opinion was that it was a chronic eczema, and would probably last for some time. When I ascertained this fact, my sympathies were so much aroused that I resolved if it was possible to cure that man by homœopathic remedies I would do so. I studied his case, and found his symptoms were covered by sepia. I gave him sepia succus in the 30th centesimal dilution; from that time the curative effect went on, and within three months afterwards there was not a vestige of skin trouble on that man's body. I have treated members of his family since, and have made inquiries about his condition, and I find that he has had no return. Dr. Gramm said that he never saw the man afterwards; I thought he might have returned to Dr. Gramm. I have seen his wife within three weeks, and she says his condition is all right. There is an illustration of the curative effect of a drug like sepia, if properly administered. I insisted that that man abandon everything in the way of local applications; I wanted him to dry himself thoroughly, wash himself, and keep away from the skin every particle of moisture and grease and oil, and then when sepia was administered he got its curative effects.

Dr. W. J. Martin: I have succeeded in making some very satisfactory cures with sepia. One of the symptoms that

brought me to select sepia was a mental one—in the case of a woman, an indifference on the part of this patient to her family affairs and everything; a woman who had always been careful about herself and her children; but she would leave the children unkempt and unclean, the house disorderly, etc. The symptom is a very strong one. When I got that symptom I gave the patient one dose on the tongue of what is marked the fifty-thousandth potency, and I have not had to give her any more medicine.

Dr. E. Cranch: I am very happy to confirm all that Dr. Schwenk has said in his interesting paper, and also what he has advanced in regard to the cures effected. I would also like to advance one thought. As he hinted, in his mention of that condition of the mucous membrane of the mouth and eruption in those cases aggravated by tobacco, associated with the general condition of venous stasis, I find it useful in elderly people who are disposed to sores on the lower extremities, eczemas, even hæmorrhoidal eczema, where these conditions are accompanied by marked venous stasis. Whenever these cases are aggravated by tobacco we give sepia.

Dr. J. P. Pursell: I had a case of paranoia which was treated for five years in an insane asylum; she was kept at her sister's for two years. She would have nothing to do with her mother, and could only be managed by her sister. This patient had a mental delusion that she suffered from the right side of the face. We could see nothing of the kind. She would look into the river and say that the right side of her face was brown. One of the characteristic symptoms of the mental state was that she was very irritable; nothing would please her. She suffered to some extent from constipation, but more particularly with eructations. This patient received sepia 200 for three days. That is all she had of the remedy, and she is perfectly well to-day. She is employed in an office in New York as a stenographer, and has been there for some three years.

Dr. Martin: I have had several sterile people who, after having taken sepia, had children.

Dr. C. S. Schwenk: I would like to say that while, in my paper, I made no endeavor to give a detailed description of

sepia—in employing it, for instance, in skin symptoms—I did not mention herpes, eczema, or any rheumatic affection, because we have to apply to them a great many different remedies—I did give the framework of the remedy. Let the patients suffer from uterine troubles, from menorrhagia or metrorrhagia, or from sterility or headache, or the neuralga of sepia, or the mental conditions of sepia—that genius has got to be present with everything where sepia will be called for, and it will be by that genius that we can select our drug and cure our patients, depending on symptoms away from the part affected.

REPORT OF THE SECTION OF PATHOLOGY AND PATHOLOGICAL ANATOMY.

Pyo-Hydronephrosis, by C. I. Wendt, M.D.

PYO-HYDRONEPHROSIS.

C. I. WENDT, M.D., PITTSBURG.

Mr. N., age 45, admitted to the hospital about November 10th, suffering from uræmic symptoms.

Urine 400 c.c., turbid, alkaline and foul-smelling; contained albumin—no casts. Passed in quantities of 2 to 3 ounces; headache frontal and occipital; anorexia and vomiting. Frequent chills. Physical examination revealed tumor in region of right kidney—rounded and slightly fluctuating—displacing liver to left.

A similar but smaller tumor found in region of left kidney.

Diagnosis of double pyonephrosis. Death resulted on fourth day. Autopsy six hours after death.

Liver, normal size, pushed against abdominal wall, the left lobe touching spleen; ascending colon pushed aside toward median line. In right kidney-space a large cystic tumor was found, tightly bound down by tough adhesions. The ureter was searched for and found to lead up to this cyst. A similar cystic tumor with attached ureter was found on left side. The kidneys, two ureters and bladder were removed entire for examination. The urethra was explored and a stricture situated in the membranous portion found, but owing to post-mortem relaxation its character could not be definitely determined.

Examination of bladder-wall showed a great hypertrophic thickening—so much so that the rigidity of its walls prevented collapse and the bladder presented the appearance of a round rubber ball. The walls measured from 1 inch to 1¼ inches in thickness, and the capacity of the vesical cavity was reduced to

between 2 and 3 fluid ounces. The mucous membrane was in thick dense folds and of a dark bluish color. Ureteral openings were patent. The thickened sections of bladder-wall showed great increase in muscular fibres and connective-tissue growth, and infiltrated by large numbers of small round cells.

Ureters found to be greatly thickened—measuring from $\frac{3}{4}$ to 1 inch in diameter—tortuous and lengthened.

The lumen of the tube showed many dilatations permanent in character, and many strictures, several of small calibre, and numbering in the right ureter 5, in the left 3.

One in the right measured about $\frac{1}{32}$ of an inch, and, owing to its being situated in a kink, would allow but a drop of water to flow through at a time.

Pelvis of right kidney enormously dilated and greatly thickened. Capsule also dilated and thickened, measuring in places $\frac{1}{8}$ to $\frac{1}{4}$-inch in thickness.

Contents measured 600 c.c., consisting of fine alkaline, chocolate-colored fluid containing many pus-cells and crystals of triple phosphates; specific gravity, 1009.

A small portion of kidney tissue was found, consisting of a portion of cortex. Microscopic examination showed atrophied kidney cells, portions of tubules and broken-down glomeruli of pale color, and so disintegrated as to be capable of but little, if any, functional activity.

The cystic kidney measured about 8 inches in length and 6 in width. The cavity of the cyst showed spaces corresponding to the dilated calyces.

The left kidney presented practically the same conditions, except that the kidney substance was present in considerable amount—more than normal—showing an effort on the part of the organ to assume the function of its degenerate fellow.

It contained about 150 c.c. of fluid—about same as right; specific gravity, 1013. Microscopic examination revealed a condition of granular degeneration, owing to the increased burden thrust upon it.

A meagre clinical history of the case previous to admittance was obtained through the kindness of Dr. H. G. Briggs.

Eight or ten years ago patient contracted gonorrhœa, and

from it inherited a stricture. Off and on for three years he had suffered from "rigors," and was treated for malaria. Spent several months in Mercy Hospital, this city, where malaria was diagnosed. Needless to say—owing to faulty diagnosis—no good results followed such treatment. Was finally compelled, by reason of increasing symptoms, to quit work and come to hospital.

It is my opinion that the stricture caused hypertrophy of the bladder and finally a hydronephrosis; and, owing to some dirty instrument having been used in urethra or bladder, infection resulted, which quickly ascended to ureters and finally reached the already distended pelvis, where the germ had an ideal habitation.

Evidently the primary kidney *infection* was unilateral—affecting only the right kidney and ureter—the left becoming enlarged in the effort to do its double work. When the left was infected, nature gave up the fight and uræmic symptoms developed—then death.

DISCUSSION.

Dr. A. W. Baily: The paper points out, it seems to me, the necessity for careful diagnosis. It also points out the necessity of every physician knowing how to do careful microscopical work. The point that impresses me most, after all, is that we must be careful in our diagnosis of these cases, and that it is necessary for us all to be thoroughly acquainted with the microscope in making all diagnoses.

Dr. W. J. Martin: In speaking of the patient being in Mercy Hospital for a number of months and receiving treatment for something different from what was found on post-mortem is not so very censurable under the circumstances, because pyonephrosis is not a very easy thing to find out. I remember a case in our hospital here; the patient had a whole lot of ills and had some urinary difficulty—scantiness—and some pus, but he complained less of that than anything else; he also had some pulmonary trouble. He died, and upon post-mortem examination we found that the kidneys were very much like those which the doctor showed us, and we were surprised that the kidneys had gone to pieces and that the

man lived as long as he did with them in that condition; yet we did not suppose that the kidney trouble was the most serious trouble he had.

Dr. Anna C. Clarke: I am glad to see the result of these efforts. It looks as though the homœopaths are putting themselves in the way of doing something. I think there is no excuse in this day for every physician not having thorough knowledge of the microscope and chemistry. Chemistry does not lie much more than mathematics; neither does the microscope, after you know what you are looking at, but a man unfamiliar with it would scarcely recognize a pathological condition when he does see it.

One thing I wish to say, and that is in reference to sending specimens to those who are not skilled in microscopical work, and the sending of serum for examination. It is often sent on pieces of tissue paper to a physician for examination. There is no excuse for that. If you intend to send serum for examination, you might just as well send it on a clean cover-glass; then the doctor knows that he has something that he can work out with some degree of authority. That is often done in the diagnosis of typhoid fever—we prick the patient's finger, get some blood on a piece of tissue paper and send it to the doctor. One might just as well put it on a cover-glass. Be sure that your cover-glass is sterilized; rinse it off with a disinfectant, because if you do not, that neglect might materially change the reaction. In kidney disease it seems that there is little excuse for making a mistake. I think we are very lazy in making a urinary analysis. I sometimes think that a specimen of urine is all right; it looks all right, and I do not think it is worth while to make an examination. I was called in to see a case this summer in which, if I had made a urinary analysis at first, it would have helped me out. I had a case of obscure typhoid; we had peritonitis to begin with; after the peritonitis we began to have hæmorrhage of the bladder. On examination I found the urine loaded with hyaline casts; we had kidney degeneration, and there were many things in that case that were obscure. We got the Widal reaction for typhoid, and that was about the first symptom that we found which con-

firmed the symptom of typhoid. We had a typical case of typhoid, and had kidney trouble as a complication. It made me think many times that if we would stick to our urinary analysis, both chemical and microscopical, we would know the condition of the kidney. The patient did not know it; she had been under treatment for a long time with pains in the back, which she attributed to constipation.

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